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Yours ever most truly,
C. P. Blyth.

JOURNAL
OF THE
ASIATIC SOCIETY OF BENGAL.

PART II. EXTRA NUMBER. AUGUST, 1875.

CATALOGUE OF
MAMMALS AND BIRDS
OF BURMA.

BY THE LATE

E. BLYTH,

C.M.Z.S.; HON. M.B.O.U.; HON. M. ASIAT. SOC. BENGAL; CORR. M. ROY. ACADEMY
OF TURIN, OF ROY. NORWEGIAN, AND OF BATAVIAN SOCIETY OF SCIENCES;
CORR. M. ACAD. NAT. SCIENCES OF PHILADELPHIA, AND NAT.
HIST. SOC. OF THE MOSELLE DEPARTMENT.

WITH A MEMOIR, AND PORTRAIT OF THE AUTHOR.

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INTRODUCTION.

The Catalogues which follow occupied the late Mr. Blyth during the last three years of his life. Sir A. Phayre, K.C.S.I., now Governor of Mauritius, had requested him to undertake a sketch of the Natural History of Burma, which should form a chapter in a work on that country then under preparation. The MS. when obtained from Miss Blyth, after her brother's death, proved to constitute a more elaborate paper than Sir Arthur's purpose required. Blyth, as was his wont, had gone into the subject *con amore*, and had poured out all he knew of the Mammal and Avi-fauna of Burma. An Introductory Note, apparently not quite completed, accompanied the Catalogues, and reserving this as sufficient probably for his object, Sir Arthur handed over the rest of the MS. to me, suggesting that the pages of this Journal would be the most appropriate place for such a paper.

This suggestion was one in which I cordially concurred; but the late Dr. Stoliczka, the able editor of Part II. of the Journal, was far away in Kashgar, and Dr. Anderson, of the Indian Museum, was in England. There might be a difficulty, in their absence, in passing this roughly written MS. through the press in Calcutta. Here, on the contrary, the most competent editorial aid offered; and having received the kindest assurances from Lord Walden, Dr. Anderson, and Dr. Dobson, I addressed the President of the Society, and proposed that the Catalogues should be published in London. This proposal was at once assented to, with a due expression of thanks on the part of the Council of the Society, both to Sir A. Phayre and to the gentlemen just named, whose respective shares in this publication will be explained in the sequel.

More than one obituary notice of Blyth and his scientific labours, by competent and kindly pens, has already appeared in the columns of those Journals to which he had been in the habit of contributing. This seems a fitting place for collecting in a brief memoir such particulars as are obtainable of his early life, and such as I can myself supply of his long career in our Society's service. My personal acquaintance with him commenced on my return to India from furlough in 1848. He had then been Curator of our Museum for seven years, and my official connexion with the Society, combined with a taste for his pursuits, brought me into frequent and close relations with him. Of the incidents of his pre-Indian life some knowledge has been obtained from his sister, who has kindly given me access to such of his letters as are in her possession.

The carbon print which accompanies this memoir has been prepared by the Autotype Company from a photograph taken of Blyth when he visited Dublin some ten years ago. It has been kindly contributed to me by Miss Blyth and her relative Mr. R. Loder, of High Beeches, Crawley, Sussex.

Edward Blyth was born in London on the 23rd December, 1810. His father was of a Norfolk family, and from him the son appears to have inherited both his taste for nature and the retentive memory for which he was so remarkable. Blyth's father died in 1820, leaving four children, whose care and education now devolved on the widow, a Hampshire lady, who at once sent Edward, the eldest boy, to Dr. Fennell's school at Wimbledon. Here the boy seems to have made unusual progress in his books, but the school reports describe him as of truant habits, and as being frequently found in the woods. He left school in 1825, and his mother seems at first to have intended him for an University career, and ultimately for the Church, but at Dr. Fennell's suggestion she sent her son to London to study chemistry under Mr. Keating, of St. Paul's Churchyard. He did not, however, long persevere in this study, being dissatisfied with his instructor's mode of teaching. His enthusiasm for Natural History pursuits disinclined him for any ordinary employment, and on coming of age he embarked the little means he had in a druggist's business at Tooting. To this he seems to have given little personal attention. The management of the business was left to another, while Blyth devoted all his time to the study which engrossed his thoughts. "Never," says his sister, "was any youth more industrious; up at three or four in the morning, reading, making notes, sketching bones, colouring maps, stuffing birds by the hundred, collecting butterflies, and beetles—teaching himself German sufficiently to translate it readily, singing always merrily at intervals." He took a room in Pall Mall, to have readier access to books, and passed much of his time in the British Museum, in which, or in some kindred institution, he tried hard to find employment.

Naturally the Tooting business did not thrive under such fitful management. Blyth soon found himself in serious difficulties; such literary work as offered itself in his own special line of study supplied him with but precarious means. In the Introduction to his edition of White's 'Selborne,' which bears date from Lower Tooting, 1836, he alludes to the anxieties which then surrounded him, though "his mind," he adds, "cleaves to its favourite pursuit in defiance of many obstacles and interruptions, and eagerly avails itself of every occasion to contribute a mite to the stock of general information." Young as he was, Blyth had at this time earned for himself a reputation as a diligent and accurate field observer, and he corresponded with many of the leading naturalists of the day. He seems to have been a contributor to both Loudon and Charlesworth's series of the Magazine of Natural History from 1833 till his departure for India, and in one of his papers of the volume for 1838 he proposed a new arrangement of Insessorial birds. Rennie enlisted him as a writer in the "Field Naturalist," and he was associated with Mudie, Johnston, and Westwood, in an illustrated translation of Cuvier, which was published by Orr and Co. in 1840. Blyth undertook the Mammals, Birds, and Reptiles in this work, adding much original matter of his own, which is inclosed within brackets. A new and enlarged edition of the work appeared in 1854, with important additions to the Molluscs and Fishes by Dr. Carpenter.

The Proceedings of the Zoological Society from 1837 to 1840 contain a few papers read by Blyth at their meetings. One of these, on the Osteology of the Great Auk, observes on the distinctive characters of Auks and Penguins. In another he draws attention to peculiarities in the structure of the feet of the Trogons. But the most important of these contributions was his Monograph of the genus "Ovis," read in 1840.* He here describes fifteen species of Sheep, including the then newly discovered *O. poli*, from Pamir. At the same meeting he exhibited drawings and specimens of the Yak, Kashmir Stag, Markhur, Himalayan Ibex, and other Indian ruminants, his remarks on which show the attention which he had already begun to give to the Zoology of India.

Just at this time our Society had obtained from the Court of Directors a grant for a paid Curator of its Museum, which had grown into a collection beyond what was manageable by the honorary office-bearers who had hitherto looked after it. The labours of Hodgson, Cantor, M'Clelland, and others, had filled it with valuable Zoological specimens, which with important fossil and other contributions were falling into great disorder. Prof. H. H. Wilson, then our honorary agent in London, was asked to select a competent man to undertake the general charge of the Museum, and the appointment was offered to and accepted by Blyth, then in weak health, and professionally advised to seek a warmer climate. Provided with passage and outfit by the Court of Directors, the latter arrived in Calcutta in September, 1841. His letter to Mr. H. Torrens, published in our Society's Proceedings for that month (vide Journ. Vol. X. Pt. 2, p. 756), expresses the diffidence with which he entered on the charge of the Mineral Department of the Museum; but of this duty he was largely relieved in the following year on the appointment of Mr. Piddington to all the Departments of Economic Geology. He still retained the custody of the Palæontological specimens.

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* Proc. Zool. Soc., July 28. This was an "Amended List" of species, of which he had enumerated nine in a summary Monograph in the previous February. This paper was reprinted in Taylor's Mag. of Nat. Hist. in 1841, and again with additional matter in J.B.A.S. vol. x. pt. 2, p. 858.

One of the duties impressed on him by our then President, Sir E. Ryan, was that of furnishing monthly reports at the Society's meetings; and in October, 1841, he accordingly submitted the first of that long series of useful reports which appear in our Proceedings with scarcely any intermission for the next twenty years. Each of the monthly issues of this Journal for the remainder of 1841 contains a paper by Blyth. In the first of these, 'A general review of the species of True Stag,' etc., he committed himself to an opinion, shared with him by Ogilby, regarding Hodgson's *Cervus affinis*, which, as Jerdon has pointed out (Mamm. p. 252), he did not recant till 1861.

Many of Blyth's reports fill from fifteen to twenty pages, and his remarks on the various contributions which reached him were just what were wanted by the field observers who supplied them. The active correspondence which he set on foot with these and with sportsmen, all more or less naturalists, throughout India, encouraged their useful pursuits, and brought him a large accession of specimens. He received in July, 1846, the thanks of the monthly meeting of our Society for his exertions "in opening out new channels of scientific intercourse."* He had already found it necessary to apply for assistance in his Museum duties, but the Society had not the means of supplementing the Government grant beyond the small allowance which they gave him for house rent. Had Blyth been less devoted to the special service in which he had engaged, there were not wanting to him opportunities of finding far more remunerative employment in other quarters. The Dutch authorities in Java seem to have about this time made him a very tempting offer.

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* J.B.A.S. xv. p. 51.

The Proceedings of the Zoological Society for 1841 and 1842 contain two letters from Blyth, of which one was written on the voyage out to India,[*] and the other shortly after his arrival.[†] The latter contained remarks on various species of birds found in India and Europe. Nothing from his pen appears in the Calcutta Journal of Natural History, of which the publication had just commenced when he reached India, and which was brought to a close in 1847. He found time, however, to send home several papers for the Annals of Natural History in 1844–48, as will be seen in the List appended to this Memoir, in which I have endeavoured to collect the titles of all his published writings.

The unpleasant episode in regard to the publication of the Burnes Zoological drawings with Dr. Lord's notes had occurred before I joined the Society. The materials, which consisted of certain wretched figures by a native artist, and some descriptions of already well-known species, the Afghanistan localities of which were alone new, had been made over to us by the Government before Blyth became our Curator. The lithographer's death had brought the work to a stand, and when inquiry was made in 1844, the notes which were to furnish the letterpress were not forthcoming. Blyth's explanation of his share in their disappearance will be found in our Proceedings of October, 1844.[‡] This was followed by a controversy with Mr. Torrens,[§] then our Secretary; and the financial embarrassments of the Society soon afterwards necessitated the abandonment of the publication. Of the fourteen coloured copies of the completed plates, I possess one, and I quite agree with Blyth that their issue would have brought ridicule on the Society.

The heavy outlay incurred on this undertaking, and on the publication of Cantor's Chusan drawings, was unfortunately the cause, not only of the embarrassments just noticed, but of a temporary estrangement between the Philological and Physical classes of our members. Funds which had been assigned by the Government for furthering Oriental literature had no doubt been appropriated to other objects. Blyth came in for a share of this discontent on the part of the Orientalists, and some Naturalists also complained that he was enriching the Mammal and Bird departments of the Museum at the expense of those of the shells, fossils, and insects. The want, too, of a Catalogue of the collections had been long felt, and the

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[*] P.Z.S. 1841, p. 63.

[†] *idem.* 1842, p. 93.

[‡] J.B.A.S. xiii. pt. 2, p. 51.

[§] *idem.* xiv. pt. 2, p. cvi.

Curator had been repeatedly urged to supply it. The Council refers to his delay in performing this duty in their Report* of 1848, while commending "his regularity of attendance and remarkable industry." His application for increased pay and a retiring pension was referred to the Society at large with the following guarded remarks:—"It must be admitted that for any scientific man capable of discharging the duties on which Mr. Blyth is employed, and of performing them with activity and zeal, for the advancement of science, etc., the [monthly] salary of 250 rupees is a very inadequate compensation. But the Council cannot but regard the present as an inauspicious period to address the Honourable Court in furtherance of any pecuniary claim. The diversion of the Oriental grant to so large an amount as has but lately been brought to notice, cannot be regarded with indifference by them, nor can it have disposed them to entertain with much favour any fresh demand on their munificence preferred by the Society." The application was then referred for report to the Natural History Section, and notwithstanding the stout struggle made on his behalf in the Section, their report was unfavourable to Blyth's claims, which were finally negatived at the July† meeting in 1848.

In the following year Blyth published his Catalogue of Birds, which had in fact long been ready for issue in a form which would have satisfied the Council. It had been constantly kept back for the Appendices, Addenda, and "Further Addenda," which disfigure the volume, and seriously detract from its value as a work of reference. This habitual reluctance of his to part with his compositions till he had embodied in them his latest gained information is conspicuous throughout his contributions, and it is in fact partly due to this habit that these Burman Catalogues form a posthumous publication.

Blyth availed himself of every opportunity which offered of escape from his closet studies to resume his early habits of field observation. Frequent mention will be found in his reports of the little excursions into the country which he thus made, and of the practical results obtained from them. The geniality of his disposition and the large store of general information at his command insured him a warm welcome in all quarters. One of his favourite resorts was Khulna, on the edge of the Jessore Sunderbuns, where the indigo factory of an intelligent and untiring observer‡ offered him a favourable station for field pursuits.

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* J.B.A.S. xvii. pt. 1, p. 10.

† J.B.A.S. xvii. pt. 2, p. 122.

‡ Our common friend Robert Frith, whose name is of frequent occurrence in the Curator's reports.

Several contributions from Blyth on his special subject will be found in the pages of the different sporting Journals which have appeared in Calcutta. He was on the regular staff of the 'Indian Field.' In the 'India Sporting Review' he published a sketch of 'The Osteology of the Elephant,' and a series of papers on 'The Feline Animals of India.' For the 'Calcutta Review' he wrote an article on the 'Birds of India.' It gives the results of his latest experience on the subject of the communication made in 1842 to the Zoological Society, which has been noticed above, and shows that of 353 species of birds admitted by Yarrell into the English avifauna, no less than 140 are found in India.

In 1854 Blyth was married to Mrs. Hodges, a young widow whom he had known as Miss Sutton, and who had lately come out to join some relatives in India. This step on his part necessarily aggravated the embarrassments entailed on him by his inadequate income, and on completing his fourteenth year of service in 1855, he memorialized the Court of Directors for an increased salary and for a pension "after a certain number of years' service." In the second paragraph of his memorial he observes, "that however desirous the Asiatic Society might be of augmenting your memorialist's personal allowances, the ever-increasing demands on its income, consequent on the extension of its collections among other causes, altogether disables it from so doing." On this memorial being submitted to the meeting* of May, 1856, it was agreed to forward the document to Government, "with the expression of the high sense entertained by the Society of the value of Mr. Blyth's labours in the Department of Natural History, and of its hope that the memorial may be favourably considered by the Honourable Court."

The extract just given will show, in Blyth's own words, that he had no complaints to make of our Society's treatment of him. Mr. A. Hume, who seems to have first joined our Society in 1870, has gone somewhat out of his way in his 'Rough Notes'† to do justice to Blyth's merits as Curator, at the expense of older members. The language used is in Mr. Hume's characteristic style, and is as offensive as the charge brought against the Society is unjust. The same charge is implied in the use of the words "neglect and harshness" in the "In Memoriam" with which vol. ii. of 'Stray Feathers' opens, and which, with this exception, describes with much truth and feeling the life-long struggle in India, as at home, which Blyth's scientific ardour supported him in maintaining against the most depressing obstacles.

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* J. B. A. S. xxv. 237.

† See note to 'My Scrap Book or Rough Notes on Indian Oology and Ornithology,' No. 1, p. 181.

That nothing came of this memorial is due probably in some measure to the movement which commenced in 1857 for transferring our collections to an Imperial Museum, but mainly to the great convulsion which shook our empire in that year. I find no record in our Proceedings of any reply having been made to our recommendation, and the negociations for the foundation of the new museum were not resumed for some three years.

Blyth made a short tour in the N.W. Provinces in July, 1856. He spent some six weeks in Lucknow, Cawnpore, Allahabad, and Benares. Oude had just been annexed, and the sale of the Royal Menagerie at Lucknow had been determined on. The tigers were the finest caged specimens in the world, and to one who understood their value in the European market, the inducement to buy and ship the animals was irresistible. A German friend joined in the speculation, and found the necessary funds. Blyth was to do the rest, and as no competitors offered, he bought the bulk of the collection for a trifle. Eighteen magnificent tigers were sold at 20 rupees (£2) a head! Some casualties occurred on the passage down the river; but his collection, when exhibited in Calcutta, contained sixteen tigers, one leopard, one bear, two cheetas, three caracals, two rhinoceroses, and a giraffe, which carried a saddle and was daily ridden. Difficulties unfortunately occurred in finding ships for the transport of the animals, and their detention in Calcutta caused further casualties and heavy charges, which his partner would not face. The speculation collapsed, but one of the tigers which reached England realized £140.

In December, 1857, Blyth had the misfortune to lose his wife. His short married life had been of the happiest, and the blow fell heavily on him. His letters to his sister for the early months of 1858 are painful to read. The shock proved too much for him, and brought on a serious attack of illness; it threatened paralysis of the heart, and he seems to have been subject to partial returns of similar attacks for the rest of his life. His health too suffered much from the isolation imposed on him by his straitened means, and from want of proper exercise. Some distraction for his thoughts was luckily afforded at this time by the opening up of a new fauna in the Andaman Islands, which Dr. Mouatt had been sent to report on before their occupation as a penal settlement. To this Report Blyth contributed an interesting chapter on the Zoology of the Islands, so far as it was then known.

The China expedition of 1860 was considered both at home and in India a good opportunity for obtaining information regarding the natural history of

North China. Blyth's name was put forward as that of a naturalist readily available and eminently qualified for the post of naturalist to the expedition. Replying to Lord Canning's objections that scientific observations in a hostile country would have to be carried on at much personal risk, our Council,* while urging the importance of the mission in a scientific point of view, stated on Blyth's behalf that "he was quite willing to encounter the danger, whatever it might be." The application, however, failed: no naturalist was appointed. This result was to be regretted, as it affected Blyth personally, for his health was failing, and the sea-voyage, with the stimulus afforded by so interesting a mission, would have been most beneficial to him, and would probably have averted the utter breakdown which was now at hand. It is doubtful whether he was equal to the more laborious task which he offered to undertake in the following year, when the scientific expedition into Chinese Tartary was projected by the Government.

Blyth was a staunch adherent of Darwin's views, and an opportunity of thus declaring himself offered at our November meeting in 1860, when Mr. H. Blanford read his paper on the well-known work of Dr. Broun on the laws of development of organized beings. The value attached by Darwin to Blyth's observations is shown by the frequent reference made to them, more especially in his 'Animals and Plants under Domestication.' His first citation of Blyth in the latter work describes him as an "excellent authority," and the many quotations that follow in these interesting volumes show how carefully he read and noted all that fell from Blyth, even in his contributions to sporting journals.

In 1861 Blyth's health fairly gave way, and in July of that year a second memorial was submitted to Government† with a view to obtaining a reconsideration by the Secretary of State for India of his claims to a pension. Lord Elgin, the new Viceroy, took up the subject warmly, and pressed it on the attention of the Home authorities as a special case:‡ "the case," as he observed, "of a man of science who had devoted himself for a very small salary to duties in connexion with the Asiatic Society, a body aided by and closely identified with the Government of India, from which the public have derived great advantage." After describing Blyth as "the creator of the Natural History Museum, which has hitherto supplied the place of a public museum in the Metropolis of India, and which will probably soon be made over to Government as part of a national museum," and referring to the importance of Blyth's labours in zoology in maintaining and extending the character and standing of our Society, this dispatch concludes thus: "His Excellency in Council considers, therefore, that if under such circumstances Mr. Blyth should, after twenty years' service, be compelled to retire from ill health, brought on very much by his exertions in pursuit of science, it would not be creditable to the Government that he should be allowed to leave without any retiring pension."

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* J. B. A. S. xxix. p. 82.

† J. B. A. S. xxxi. 60.

‡ *Idem.* xxxi. 430.

Meanwhile, Blyth was only enabled to remain at his post by the facilities which the Council afforded him of making short successive visits to Burma. He was for some five months in that province, from which, and more especially from the Yonzalin River, he communicated several interesting letters. His camp life there agreed with him, and he had kind friends like Phayre, Fytche, and Tickell to associate with and take care of him. His return to Calcutta was always attended by a relapse, and the hot season of 1862 brought him to a state for which there was no alternative but instant departure for Europe. As yet, however, no orders had been received from home in regard to the pension. It was clear that for these it would not do to wait, and the Council* under the emergency gave Blyth a year's leave on full pay. He had hardly gone when the expected reply was received, and this, notwithstanding the Viceroy's strongly expressed opinion, proved† an unfavourable one. Eventually‡ a pension of £150 a year was conceded, owing, I believe, mainly to the untiring efforts made in London on Blyth's behalf by the late Sir P. Cautley and Dr. Falconer.

By the end of 1864 our Society's negociations with the Government for the transfer of its collections to the Indian Museum had been brought to a successful close, and at the November meeting the following just tribute was paid to our late Curator in the form of a resolution, which, on the Council's proposition, was carried unanimously:—

"On the eve of transferring the zoological collections of the Society to Government, to form the nucleus of an Imperial Museum of Natural History, the Society wishes to record its sense of the important services rendered by its late Curator, Mr. Blyth, in the formation of those collections. In the period of twenty-two years during which Mr. Blyth was Curator of the Society's Museum, he has formed a large and valuable series of specimens richly illustrative of the ornithology of India and the Burmese Peninsula, and has added largely to the Mammalian and other vertebrate collections of the Museum; while, by his numerous descriptive papers and catalogues[*] of the Museum specimens, he has made the materials thus amassed by him subservient to zoological science at large, and especially valuable to those engaged in the study of the vertebrate fauna of India and its adjoining countries."[†]

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* The Council's action in anticipation of the vote of a meeting was cordially approved at our annual meeting of 1863, but was protested against as illegal by Mr. Oldham.

† J. B. A. S. xxxii. 32.

‡ J. B. A. S. xxxiii. 73.

Blyth was elected an Honorary Member of the Society in the following year. The Museum was now under a Board of Trustees, and a new Curator, better paid, and with all the prospective advantages of a Government official, had taken charge of it. Writing to me from Malvern, in June, 1865, Blyth says: "I had always a presentiment that my successor in the Museum would be more adequately remunerated, beginning with just double what I had after more than twenty years' work, with an additional £50 yearly, and house accommodation! How very much more could I have accomplished with such an income!" With this mild explosion he brushed off discontent, and strove to make the most of his small means. His letters to me, and these were frequent up to the time of my leaving India in 1868, were full of his own special subject; some of them are published in our Society's Proceedings.

In January, 1864, Blyth visited Dublin, where he read two papers before the Royal Irish Academy. The first of these was 'On the True Stags or Elaphine division of the genus *Cervus*,' and does not appear to have been printed *in extenso* in the Academy's Proceedings.[‡] His other paper, 'On the Animal Inhabitants of Ancient Ireland,' was published at length in the Academy's Proceedings[§] of January 25th. What the extraordinary bones were which he exhibited at the meeting, and which he referred to as "probably Tibetan," was not explained in any of his letters.

At a meeting of the Geological[‖] Society of Dublin, he made some remarks on a paper of Professor Haughton's 'On Geological Epochs,' and expressed his concurrence in Dr. Carte's identification of the bones of the Polar Bear discovered in Lough Gur, in County Limerick. On further examination, however, these bones have been pronounced by Mr. Busk to be indistinguishable from those of *Ursus ferox*.

The question of zoological distribution will be found to have been treated by Blyth, in a paper which he contributed to 'Nature' in 1871

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[*] Blyth's Catalogue of Mammalia was published in 1863, its last sheets being carried through the press by his friend Jerdon.

[†] J. B. A. S. xxxiii. 582.

[‡] Vol. viii. Jan. 11, 1864, p. 458.

[§] *Id. qu. sup.* p. 472.

[‖] Proceedings G. S. D. for January 13, 1864, Journ. p. 173.

(March 30). He had been led to consider it while drawing up the introductory chapter which was to preface these catalogues, for in a letter to me dated 15th July of that year he refers to this MS. as follows :—

"I suppose that Phayre showed you my sketch of what I conceive to be the true regions and sub-regions of S. E. Asia, and I expected that he would have modified somewhat my notions with regard to the provinces into which I venture to divide the *Indo-Chinese sub-region*, but he seems to have assented to them altogether. Only yesterday I received the 'Proceedings of the Asiatic Society' for April and May last, and the 'Journal of the Asiatic Society of Bengal,' Part II., No. 1, 1871, and in p. 84 of the 'Proceedings' I find some remarks by Stoliczka which quite confirm my views, only that I think that, with regard to the extension of the Malayan fauna into India, he should rather have said *Southern* India, because the African affinities of Central and Northern India, inclusive of the Siwâlik Deposits, are of ancient date, as shown by the occurrence of *Bos namadicus* in Central India, which is barely separable from the European *B. primigenius* (a type of *Bos* which is elsewhere only known from Europe), and by the presence of giraffes and of antelopes of African type in the Siwâlik Deposits. I have such an enormous mass of valuable facts to deal with, that I gave over making them public in driblets at the meetings of the Zoological Society; and I have now time and undisturbed leisure to treat of them in a work which I am preparing on 'The Origination of Species,' a subject upon which I think I can throw some light."*

As pointed out in a note, Blyth's 'Austral-Asian region' is generally the same with Dr. Sclater's 'Indian region,' *minus* Hindustan proper, or the plains of Upper India east and south of the north-west desert—the Dukhun or table-land of the Peninsula with the intervening territory, inclusive of the Vindhyan Ghats—the Coromandel Coast and the low northern half of Ceylon—all of which Blyth places in his Ethiopian region. What remains of India after this large deduction Blyth distributes through three sub-regions, viz. the Himalayan, Indo-Chinese, and Cinghalese. India cannot, he argues, be treated as a natural zoological province: it is a border-land in which different zoological regions meet, and one, therefore, "of extraordinarily complex zoological affinities." Burma of course falls within his Indo-Chinese sub-region, which extends southward as far as Penang and Province Wellesley, where his Malayan sub-region commences.

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* Among the papers left by Blyth is one headed 'Origination of the Various Races of Man,' which he may have intended to form part of the book here referred to. It contains nothing original, but brings together numerous points of resemblance and contrast observable in the several groups of the order Primates.

The interest which Blyth had always taken in the Rhinoceros group was revived by the safe arrival at the Zoological Gardens of the Chittagong individual, the *Ceratorhinus crossei* of the present Catalogue. In his paper contributed to the 'Annals' in 1872, he argues against Gray's assignment of this species to *Rhinoceros sumatrensis,* and in favour of its identity with the fine Tavoy specimen shot by Col. Fytche, and figured in this Journal, vol. xxxi. p. 156. Blyth's conjecture that the Arakan Hills is one of the habitats of this species is borne out by the letter in which Capt. Lewin, the superintendent of the Hill Tracts of Chittagong, first reported to me in 1867 the capture of the animal.* After giving her measurements, which were then 6 feet from crown of head to root of tail, and 4 feet 2 inches in height, and otherwise minutely describing her horns, Capt. Lewin adds: "You are mistaken I think in supposing that she has come from the Tenasserim Provinces —the two-horned species is found in my hills. I have seen one alive, and several of my men have seen a dead one."

In the Journal of Travel and Natural History, No. 2,† of 1868, will be found a letter from Blyth in explanation of some remarks which he had made at the Zoological Society on the occasional shedding or loss by violence of rhinoceros' horns, followed by their renewal. In this he takes the opportunity of pointing out the tendency which some species have to develope a rudimentary horn on the forehead, and argues for the possible explanation in this manner of cases of three-horned rhinoceroses being reported by travellers.

The connexion which Blyth established, first with 'Land and Water,' and later with the 'Field,' gave him interesting literary occupation; and the 'Naturalist' columns of both these journals abound in scraps by 'Zoophilus,' which did real service to the advancement of scientific truth. No pen so ready as his to expose current fallacies or sensational announcements in works of travel of the results of loose and careless observations. Very many of his 'scraps' are worthy of being collected and preserved, for such use as we see they have been turned to by Mr. Darwin. These columns occasionally contained more elaborate papers, such as the series in the 'Field' for 1873, on 'Wild Animals dispersed by human agency,' and 'On the Gruidæ or Crane family.' This monograph, for such it amounts to, was its writer's last utterance. He had long been ailing, and in the autumn of this year he became very ill, and went to Antwerp for a change. On his return he called on me, feeling, as he said, better, though complaining of great prostration. He seemed full of what he had seen in the Antwerp Zoological Garden, where he thought he had found another new species of Rhinoceros. This was our last interview. Though nursed by a tenderly-attached sister, his weakness increased, and he died of heart disease on the 27th of December, within a day or two of his 63rd birthday.

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* The date of capture is erroneously given, both by Mr. Blyth and by Dr. Anderson in his cited communication to the Zoological Society.

† Page 130.

More competent authorities than I can pretend to be have done justice to the high intellectual powers which Blyth displayed from the outset of his career as a naturalist; to the wonderful capacity and accuracy of his memory, which, unassisted by any systematic notes, assimilated the facts once stored in it, and enabled him readily to refer to his authority for them; to his great power of generalization, and to the conscientious use which he made of it. Abundant proof of the high respect with which his opinions were always listened to, and of the careful consideration given to them even where they were not accepted, is to be found in the published works of his brother naturalists. No higher testimony to his habitual scientific caution need be adduced than that of Mr. Darwin, but it is equally borne by Jerdon throughout his published writings. Gould* refers to him as "one of the first zoologists of his time, and the founder of the study of that science in India." I confine myself here to putting on record the tribute of an old and intimate friend, to the excellent qualities of heart possessed by Blyth. The warmth and freshness of his feelings which first inspired him with the love of Nature clung to him through his chequered life, and kept him on good terms with the world, which punished him, as it is wont to do, for not learning more of its wisdom. Had he been a less imaginative and a more practical man, he must have been a prosperous one. Few men who have written so much have left in their writings so little that is bitter. No man that I have ever known was so free as he was from the spirit of intolerance; and the absence of this is a marked feature in all his controversial papers. All too that he knew was at the service of everybody. No one asking him for information asked in vain. Among the many pleasurable reminiscences of my own long residence in India, few are more agreeable than those which recall his frequent Sunday visits to me.

The Society are largely indebted to the three able Naturalists who have lent their aid to the publication of these Catalogues. That of the Mammalia, with the exception of the Bats, was revised by Dr. Anderson last year, before he was summoned to India to join the second expedition to Yunan. Dr. Dobson, of the Royal Victoria Hospital of Netley, has edited the Catalogue of the order *Chiroptera*, the study of which he has long specially cultivated. In both cases the notes and additions of the editors are inclosed within brackets, and bear their respective initials. One or two notes added by myself are signed 'Editor.' All unsigned notes and citations of references are those of the author of the Catalogues.

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* 'Birds of Asia,' Pt. XXVI. *Trochalopteron blythii.*

The Catalogue of Birds will be found, under Lord Walden's able and conscientious treatment, to be a complete list of the Burmese species, 660 in number, as ascertained to date. His editorial notes and additions, which embrace the latest information afforded by his fine collection, are inclosed in brackets, and largely enhance the value of the Catalogue. Blyth's MS., for the species enumerated in it, has been scrupulously adhered to, obvious errors of orthography having alone been corrected, and localities being added where the habitats were doubtful when he wrote. On this last point I quote Lord Walden's own words:

"The names of the localities added are given on the authority of Mr. "Davison, Mr. Oates, Major Lloyd, Captain Feilden, and Lieutenant Ward-"law Ramsay, whose initials will be found attached. My endeavour has "been to include those localities which, while within the range, are not "specified by Mr. Blyth. All Major Lloyd's and Lieutenant W. Ramsay's "specimens and some of Captain Feilden's have been identified by me. Mr. "Hume is responsible for the accurate identification of those obtained by "Mr. Davison and Mr. Oates, and although that gentleman, in most "cases, adopts the faulty nomenclature of Mr. G. R. Gray's Hand List, I "believe I have succeeded in correctly interpreting his meaning."

A. GROTE.

London, *August* 27, 1875.

List of Mr. Blyth's published papers in the Journal of the Asiatic Society of Bengal and other Journals, with the necessary references.

Curator's Reports, read at the Society's Monthly Meetings.

Report for September, 1841, read by his predecessor, Mr. Piddington, on the occasion of Mr. Blyth's first introduction to the meeting of the 6th October, X. 836.

Report for October, 1841, X. Pt. 2, 917.

,, November, 1841, X. Pt. 2, 936.

Report for January, 1842, XI. Pt. 1, 95.

,, February, 1842, XI. Pt. 1, 129.

,, April, 1842, XI. Pt. 1, 444.

,, June, 1842, XI. Pt. 1, 585.

,, July, 1842, XI. Pt. 2, 788. The two Appendices to this Report monograph the Asiatic Drongos and Quails.

,, August, 1842, XI. Pt. 2, 865. Treating mainly of Reptilia.

,, September, 1842, XI. Pt. 2, 880.

,, October, 1842, XI. Pt. 2, 969.

,, November, 1842, XI. Pt. 2, 1202.

,, February, 1843, XII. Pt. 1, 166. To which is appended a revision of all previous reports, beginning with some interesting observations on Asiatic Simiadæ.

,, November, 1843, XII. Pt. 2, 925. This is entitled the "Monthly Report for December, 1842," but it contains Addenda, which cover the whole intervening period. It is very full and interesting, especially in its comments on collections from Darjeeling.

,, May, 1844, XIII. Pt. 1, 361. Further appendix to the above report for December, 1842. It describes the Mynahs and Babblers.

,, November, 1846, XV. p. xcix.

,, February, 1847, XVI. Pt. 1, 209.

,, March, 1847, XVI. Pt. 1, 385.

,, April, 1847, XVI. Pt. 1, 502.

,, May, 1847, XVI. Pt. 1, 603.

,, June, 1847, XVI. Pt. 2, 725. Describing the Quadrumana in the Society's Collection.

,, July, 1847, XVI. Pt. 2, 863. Describes the Sciuridæ in the Society's Collection, and gives Addenda to previous Reports.

,, August, 1847, XVI. Pt. 2, 992. With Supplement. Describes the Hornbill group.

,, December, 1847, XVI. Pt. 2, 1271. Remarks on the different species of Pangolins.

,, January, 1848, XVII. Pt. 1, 82.

,, March, 1848, XVII. Pt. 1, 247.

,, April, May, and June, 1848, XVII. Pt. 1, 559.

,, January, 1849, XVIII. Pt. 1, 80.

,, June, 1850, XIX. 426.

,, July, 1850, XIX. 490.

,, September, 1850, XIX. 497.

Report for October, 1850, XIX. 561.

,, January, 1851, XX. 108. (Arrear Reports of 1849.)

,, February, 1851, XX. 213.

,, August, 1851, XX. 443.

,, April, 1852, XXI. 341–358.

,, May, 1852, XXI. 433.

,, May, 1853, XXII. 408.

,, September, 1853, XXII. 580.

,, October, 1853, XXII. 589.

,, February, 1854, XXIII. 210. Appends a short note to his paper on Orangutans in Vol. XXII.

,, October, 1854, XXIII. 729. Describes in a note the series of Indian and Tibetan Foxes in the Society's Museum.

,, February, 1855, XXIV. 178.

,, March, 1855, XXIV. 187.

,, April, 1855, XXIV. 252. Reports on Rüppell's contributions from Abyssinia, and mentions Tickell's and Frith's discoveries of Adjutants' nests.

,, May, 1855, XXIV. 359.

,, July, 1855, XXIV. 469. Enumerates in a note the series of smaller Squirrels in the Society's Collection.

,, October, 1855, XXIV. 711. Is mainly given to notices of Theobald's contributions of Reptiles and other specimens from Tenasserim provinces.

,, August, 1856, XXV. 439. Remarks in a note on the two supposed wild types of the Domestic Cats of India.

,, May, 1857, XXVI. 238.

,, July, 1857, XXVI. 284.

,, October, 1857, XXVI. 314.

,, December, 1857, XXVII. 81. Subjoins in a note a synopsis of the species of *Palæornis* with their synonyms.

,, May, 1858, XXVII. 267. Describes Dr. Liebig's contributions from the Andaman Islands, and numerous Siluroid and other Fishes obtained in the neighbourhood of Calcutta.

,, February to May, 1859, XXVIII. 271. Further observations on Andaman collections. A note elucidates the series of Flying Squirrels.

,, September, 1859, XXVIII. 411. Reports on Tickell's contributions from Tenasserim.

Report for March, 1860, XXIX. 87. Reports on Swinhoe's contributions from Amoy and Formosa; on Cape specimens from Layard; and on further collections from the Andaman Islands.

,, April and May, 1860, XXIX. 447.

,, May and June, 1860, XXX. 90. Reports on collections from China, the Philippine Islands, and Cape of Good Hope.

,, July, 1861, XXX. 185. Comments on Stags and Staghorns. This report first announces his new conclusions in regard to *Cervus affinis.*

,, February, 1862, XXXI. 331. Reports on collections from British Burma, and enumerates in a note the ascertained species of Sciuridæ in that province.

,, February (continued), 1863, XXXII. 73, 451. Reports on collections from Burma and Port Blair. In a note are enumerated the Testudinata of the Burmese provinces so far as then ascertained.

Letter from Blyth, December 2, 1864, XXXIV. Pt. 2, 48. Comments on Milne-Edwards's Monograph of the Chevrotains.

,, No date. On *Inuus Assamensis* and Indian Rats and Mice, XXXIV. Pt. 2, 192.

,, September 17th, 1865, XXXIV. Pt. 2, 279. Refers to his forthcoming Comments in the Ibis on Jerdon's 'Birds of India.' Concludes with an enumeration of the species of *Arboricola.*

,, No date. XXXV. Pt. 2, 156.

Communications to the Journal of the Society. The papers marked with an asterisk were reprinted in the Annals of Natural History.

1841. General review of the species of true Stag, or Elaphoid form of *Cervus*, comprising those more immediately related to the Red Deer of Europe. X. Pt. 2, 736.

Monograph of the species of Wild Sheep. X. Pt. 2, 858.

Description of another new species of Pika (*Lagomys*) from the Himalaya. X. Pt. 2, 816.

Ditto of three Indian species of Bat, of the genus *Taphozous.* X. Pt. 2, 971.

1842. Notes on various Indian and Malayan Birds. XI. Pt. 1, 160.

Notice of the predatory and sanguivorous habits of the Bats of the genus *Megaderma*, with some remarks on the blood-sucking propensities of other *Vespertilionidæ.* XI. Pt. 1, 255.

1842. Monograph of the species of Lynx. XI. Pt. 2, 740.
Descriptive notice of the Bat described as *Taphozous longimanus* by General Hardwicke. XI. Pt. 2, 784.
Monograph of the Indian and Malayan species of *Cuculidæ*, or Birds of the Cuckoo family. XI. Pt. 2, 897 and 1095.

1844. Notes of various Mammalia, with descriptions of many new species—Pt. 1, Primates. XIII. Pt. 1, 463.*
Additions to and annotations on Hodgson's *Leiotrichine* Birds of the Sub-Himalaya, with a synopsis of the Indian *Pari* and Indian *Fringillidæ.* XIII. Pt. 2, 933.

1845. Notices and descriptions of various new or little-known species of Birds. XIV. Pt. 1, 173; XIV. Pt. 2, 546; XV. Pt. 1, 280; XVI. Pt. 1, 117–428.
Description of *Caprolagus*, a new genus of Leporine mammalia. XIV. Pt. 1, 247.*
Drafts for a Fauna Indica—No. 1, *Columbidæ.* XIV. Pt. 2, 845.*

1846. Notes on the Fauna of the Nicobar Islands. XV. 367.

1847. Some further notice of the species of Wild Sheep. XVI. Pt. 1, 350.

1849. Note on the *Sciuri* inhabiting Ceylon, and those of the Tenasserim provinces. XVIII. Pt. 1, 600.
A supplemental note to the Catalogue of the Birds in the Asiatic Society's Museum. XVIII. Pt. 2, 800.

1850. Description of a new species of Mole (*Talpa leucura*, Blyth). XIX. 215.*
Remarks on the modes of variation of nearly affined species or races of Birds, chiefly inhabitants of India. XIX. 221.
Conspectus of the Ornithology of India. XIX. 229—319, 501.

1851. Notice of a collection of Mammalia, Birds and Reptiles procured at or near the Plateau of Cherra Punji, in the Khasia hills north of Sylhet. XX. 517.
Report on the Mammalia and more remarkable species of Birds inhabiting Ceylon. XX. 153.

1853. Remarks on the different species of Orangutan. XXII. 369.
Notes and descriptions of various Reptiles new or little known. XXII. 639.

1854. Monograph of the Indian species of *Phylloscopus* and its immediate affines. XXIII. 479.*

1855. Memoir on the Indian species of Shrews. XXIV. 24.*
Report on a Zoological Collection from the Somali country. XXIV. 291.

1855. Further remarks on the different species of Orangutan. XXIV. 518.

1857. Description of a new Indian Pigeon akin to the 'Stock Dove' of Europe, with notices of other *Columbinæ.* XXVI. 217.*

1859. On the different animals known as Wild Asses. XXVIII. 229.*

On the Great Rorqual of the Indian Ocean, with notices of other Cetals, and of the *Syrenia* or Marine Pachyderms. XXVIII. 481.

1860. On the flat-horned Taurine Cattle of S.E. Asia, with a note on the races of Reindeer, and on Domestic Animals in general. XXIX. 282—376.

Report on some Fishes, received chiefly from the Sitang river and its tributary streams, Tenasserim provinces. XXIX. 138.

The Cartilaginous Fishes of Lower Bengal. XXIX. 35.

1862. Memoir on the living Asiatic species of *Rhinoceros.* XXXI. 151.

Further note on Elephants and Rhinoceroses. XXXI. 196.

Ditto on Wild Asses and alleged Wild Horses. XXXI. 363.

1863. Memoir on the Rats and Mice of India. XXXII. 327.

List of communications to the 'Ibis.'

I. p. 464. 1859. Letter stating the occurrence of *Catarractes pomarinus* in Moulmein, with remarks on the Zoology of the Andamans.

II. p. 323. 1860. Note on Edible Birds' Nests. His letter, from which extracts are also published, mentions his new Cassowary, *C. uno appendiculatus.*

III. p. 268. 1861. Note on the Calcutta Adjutant, *Leptoptilus argala.*

IV. 1862. Among his letters extracted from in this Vol., the last (p. 385), on Jerdon's new Birds from Upper Burma, is the most interesting.

V. 1863. Catalogue of the Birds of India, with remarks on their Geographical Distribution. Part I. *Scansores* and *Raptores.*

Note on the genus *Pyrrhula.*

His letter extracted from at p. 117 of this Vol. announces Tytler's last Andaman discoveries, *Hæmatornis Elgini*, etc.

VI. 1864. His letter at p. 411 remarks on the distinct characters of the *Bucconidæ* and *Capitonidæ,* which he had pointed out so far back as 1838.

New Series. I. 1865. A few identifications and rectifications of Synonymy.

II. 1866. The Ornithology of India. A Commentary on Dr. Jerdon's 'Birds of India.'

III. 1867. The same paper continued.
The Ornithology of Ceylon. A supplement to Dr. Jerdon's 'Birds of India.'

IV. 1868. Extracts from letters only.

VI. 1870. Notes relating chiefly to the Birds of India; being Comments on the Collections of the Leyden Museum, which Blyth had visited in 1869.

THIRD SERIES. II. 1872. Letter commenting on Hume's observations on *Haliætus albicilla*, and on Khasia Birds in the India Museum.

Communications to 'Annals of Natural History.'

1843. FIRST SERIES. XII. pp. 90, 165, 229. List of Birds obtained in the vicinity of Calcutta, with remarks on their habits.

1844. XIII. p. 113. Further notice of the species of Birds occurring in the vicinity of Calcutta.
XIII. p. 175. Description of some new species found in the neighbourhood of Calcutta.
XIV. pp. 34–114. Further observations on the Ornithology of the neighbourhood of Calcutta, with notes by H. E. Strickiand.

1847. XX. p. 382. Critical remarks on the republication by Mr. Strickland of Karl Sundevall's paper on the Birds of Calcutta.
XX. p. 313. Critical remarks on J. E. Gray's Catalogue of Hodgson's Collections.

1848. SECOND SERIES. I. p. 454. Corrections of ditto.

1871. FOURTH SERIES. VIII. p. 204. On the supposititious *Bos* (?) *pegasus* of the late Col. C. Hamilton Smith.

1872. X. p. 399. On the species of Asiatic two-horned Rhinoceros.

I find on reference to the Index published in 1872 of the Proceedings of the Zoological Society, that besides exhibiting and remarking on Horns and other specimens at its meetings, Blyth contributed the following papers :—

1861. Notes on some Birds collected by Dr. Jerdon in Sikkim.
Letter on *Rhinoceros crossii*, Gray.

1863. Synoptical List of the species of *Felis* inhabiting the Indian Region and the adjacent parts of Middle Asia.

1864. Notes on sundry Mammals (*Chevrotains*, Asiatic Civets, and the Unicorn Goat of Tibet).

1866. Ditto on African Buffalos.

1867. Remarks on an Indian Quail (*Rollulus superciliosus*).

Notes on three Asiatic species of Deer, viz. *Rucervus duvaucelli*, *R. schomburgki*, and *Panolia eldi*.

1869. Notice of two overlooked species of Antelope (*Boselaphus major* and *Strepsiceros imberbis*.

On the Hybrid between the Chamois and the Domestic Goat.

Contributed to Journal of Travel and Natural History.

1868. No. 4. Review of Layard's 'Birds of South Africa.'

ERRATA.

"No. 1. 1875," had been introduced into the upper corners of some of the earlier pages, which were printed off before the oversight was discovered.

p. 24. "Order Secundates" omitted in the heading over the words "Sub-order Carnivora."

p. 52, note. For "P.Z.S. 1873," read "1872."

CATALOGUE OF THE MAMMALS AND BIRDS OF BURMA.—*By the late* EDWARD BLYTH, *C.M.Z.S.*

Sub-kingdom VERTEBRATA.

Class MAMMALIA.

Order *PRIMATES.*

Sub-order CHEIROPODA.

Tribe CATARRHINI.

Fam. **Hylobatidæ.**

Gibbons, or Long-armed Apes.

1. HYLOBATES HOOLOCK.

Simia hoolock, Harlan; *H. scyrites* and *H. choromandus*, Ogilby. *Myouk Ulwai-gyen*, Arakan; also *Too-poung*, of the Arakanese, Tickell.

The White-browed Gibbon inhabits the hill-forests from the basin of the Bráhmáputra to that of the Irawádi.

2. H. LAR.

Homo lar, L.; *Simia longimana*, Schreber; *S. albimana*, Vigors and Horsfield; *Pithecus variegatus*, Geoffroy (*nec* Kuhl); *H. entelloides*, Is. Geoffroy; *H. pileatus*, Gray.

The White-handed Gibbon bears the same native name as the preceding species, and inhabits the hill-forests of the Tenasserim provinces, Malayan peninsula, Siam, Cambodja, if not also Hainan, and probably the South of China.

According to Dr. Anderson, two species of Gibbon occur in the vicinity of Bhamo;† but I cannot help suspecting that mere differences of colour were so regarded, especially as one of them, mentioned as a light-coloured species, is indicated from native report only. Black examples of *H. hoolock* and *H. lar* have been figured from life by Dr. Sclâter;‡ and three differently coloured individuals, representing what I consider to be varieties of *H. lar* from Cambodja, by the name *H. pileatus*, have also been figured by Dr. Gray.[*] The dubious *H. pileatus* is supposed by Mr. Swinhoe to be the particular kind of Gibbon which inhabits the Chinese island of Hainan, and he also reports the alleged existence of a black species of long-armed Ape in the country West of Canton.[†] The variations of colour of *H. hoolock* and *H. lar* I have elsewhere described;[‡] and I have seen examples of *H. lar* from the Malayan peninsula corresponding to the figures assigned to the supposed *H. pileatus*.

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* An asterisk prefixed denotes that the species was obtained by Sir A. P. Phayre.

† "Report of Expedition to Western Yunan viâ Bhamo," by J. Anderson, M.D., pp. 256, 271, 273.

‡ P. Z. S. 1870, p. 86, pl. v.

Both the White-browed and the White-handed Gibbons vary exceedingly in shade of hue, from black to sullied white and pale fulvescent; the two sexes equally of *H. lar*, but the females only, so far as I have seen, of *H. hoolock*. The males of the latter would appear to be constantly black, the females rarely so, at least in Assam, though according to Colonel Tickell both sexes of it are always black in Arakan. A pale specimen from Sandoway has nevertheless been recorded.[§] In the opinion of Col. Tickell the Gibbon of Arakan is different from that inhabiting the forests and hills of Káchár, Manipur, and Assam, "or, if the same," the latter "is so strongly modified as to be larger and stouter, with a totally different call, and subject to vary the same as *H. lar*, which *H. hoolock* in Arakan is not."[||] I remember seeing a pair of tame Hoolocks, about full-grown, at Akyab, at a time when I had long been familiar with the animal, which is not rarely brought to Calcutta from the Gáro and other hill-ranges bordering upon the valley of the Bráhmáputra; and I failed to perceive the slightest difference in voice or any other particular.

Whatever the rest of the colouring may be, *H. hoolock* has constantly a broad white frontal band either continuous or divided in the middle; while *H. lar* has invariably white hands and feet, less brightly so, in some, and a white ring, encircling the visage, which is seldom incomplete. Some of both species are variegated or parti-coloured; and the pale examples of *H. lar* constitute the supposed *H. entelloides*.[¶] Whether the two anywhere inhabit the same forests, and what the limits of the range of either of them may be, has yet to be ascertained, but the habits which Tickell and I have detailed may be considered to have generic application.[**]

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[*] P. Z. S. 1861, p. 136, pl. xxi.

[†] *ibid.* 1870, pp. 224, 615.

[‡] J. A. S. B. xvi. pp. 729, 730.

[§] *ibid.* xiii. p. 464.

[||] *ibid.* xxxiii. p. 196.

[¶] Archives du Museum, tom. ii. p. 532, *t.* 1.

[**] J. A. S. B. xiii. p. 464, and Tickell, *ibid.* vol. xxxiii. p. 196.

According to Dr. Theodore Cantor,[*] the *H. variegatus*, Kuhl (*nec* Geoffroy, = *H. agilis*, Fr. Cuvier, = *H. rafflesii*, Geoffroy, = *H. leucogenys*, Ogilby), is also an inhabitant of the Malayan peninsula, though less numerous there than *H. lar; H. variegatus* occurring elsewhere for certain only in Sumatra, where it inhabits, together with *H. syndactylus* (*Simia syndactyla*, Raffles, *Siamanga syndactyla*, Gray), the Siamang or Pouched Gibbon. Helfer even states that the latter species has been found in the southern parts of the Tenasserim provinces, as high as the 15th deg. N. lat.[†] Cantor, however, does not include it in his "List of Mammalia inhabiting the Malayan Peninsula;"[‡] but Mr. Wallace asserts that it "is not uncommon in some parts" of that peninsula.[§] This, it may be suspected, is a mistake, arising probably from the circumstance that—as Sir T. Stamford Raffles remarks—"*Samang* or *Siamang* is the name given to certain tribes of aboriginal inhabitants of the Malayan peninsula."[||] The Siamang Ape, there is reason to believe, is quite peculiar to the island of Sumatra, where only Mr. Wallace actually observed it; and the fact that in other species of Gibbon the second and third digits of the foot are occasionally connected, may have deceived Helfer and others into the supposition that such animals represented the veritable *H. syndactylus*.

The Siamang is distinguished from all other Gibbons, not only by its much greater size, but by its possessing an inflatable laryngeal sac. Mr. Wallace remarks of it that "it moves much more slowly than the active *Hylobates*" (*H. agilis*, F. Cuvier), "keeping lower down on trees, and not indulging in such tremendous leaps; but it is still," he adds, "very active, and by means of its immense long arms, five feet across in an adult about three feet high, can swing itself along at a great rate." In all of the species of Gibbon the thumbs of both the hands and feet are separated from the other digits to the base of the metacarpal and metatarsal bones; a character which is distinctly represented in no published figure that I know of, nor am I aware that it occurs in any other quadrumana, with the exceptions of the allied lemurian genera *Indris* and *Propithecus*. It also is not generally understood that the long-armed Apes are true bipeds when on the ground, applying the sole flatly, with the pollux widely separated from the other digits; the hands are held up to be out of the way, rather than for balancing, and this even when ascending a flight of steps, as I have seen repeatedly, but they are ever ready to seize hold of any object by which the animal can assist itself along, even as a human being commonly grasps a banister when ascending a stair-case. Upon the forest trees, however, the Gibbons swing themselves about or forward by means of their upper limbs only, with extreme facility and grace, and at a marvellous rate of speed when duly exerting themselves, taking the most astounding hand-leaps in rapid and continuous succession when in full career. They are further remarkable for their exceedingly loud shouting cries, not unmusical in tone, which are often uttered in concert, and differ more or less in the different species.

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[*] J. A. S. B. xv. p. 173.

[†] *ibid.* vii. p. 858.

[‡] *l.c.* p. 173.

[§] "Travels in the Malay Archipelago," i. p. 134.

[||] Tr. Lin. Soc., xiii. p. 242.

Dr. Gray separates the Siamang from *Hylobates*, and expresses a suspicion that all the rest may prove to be local varieties of one species. I am familiar with four of them in the living state, and I consider these to be sufficiently well distinguished to rank as species. No one who knows the two could well confound a white-browed with a white-handed Gibbon, and their voices differ considerably. To the best of my recollection, that of *H. variegatus* also differs very appreciably from these; and the voice of *H. leuciscus*, which is peculiar to Java, I do not remember to have heard. Of the Bornean *H. concolor* (*Simia concolor*, Harlan, *H. harlani*, Lesson), I have only seen mounted skins, and it is most nearly akin to *H. variegatus*, if indeed separable from it; and *H. funereus*, Is. Geoff., is another alleged species inhabiting the "Solo" or Sulu Archipelago.* Living specimens of both of the latter require to be compared with living specimens of *H. variegatus*.

Fam. **Papionidæ.**

Monkeys with simple stomach, and provided with cheek-pouches; inclusive of the African Baboons.

*3. INUUS LEONINUS.

Inuus leoninus, Blyth, Catalogue of the Mammalia in the Museum of the Asiatic Society of Bengal, 1863, p. 7, No. 14; *Macacus nemestrinus?* var., J. A. S. B. vol. xiii. p. 473; *I. arctoides? ibid.* vol. xvi. p. 731; *M. andamanensis*, Bartlett, P. Z. S. 1869, p. 467 and fig.; 1870, pp. 220, 663, and pl. xxxv., p. 598. *Myouk-la-hoing*, Arakan; *Myouk-me*, Tenasserim, Mason.

The Long-haired Pig-tail Monkey was originally described from two skins without skull or other bones attached, which were transmitted to Calcutta from Arakan by the author of the present paper. One was that of a particularly fine male, with hair on the fore-quarters from four to five inches long, and the tail-tuft of a deep ferruginous colour, which also tinged the fore-quarters. The other was that of a small young animal, rather pale in colour. It does not appear to be a common species, and chiefly inhabits the limestone mountains from the North of Arakan to an undetermined distance southward. In the Malayan peninsula, it is replaced by the nearly allied *I. nemestrinus*, the well-known Short-haired Pig-tail Monkey of the Malay countries, which is a likely species to inhabit also the southern Tenasserim provinces. Both of them are highly docile,* and the manifold performances of "Jenny," the so-called Andaman Monkey, that lived for some time in the London Zoological Gardens, will be remembered by very many visitors. A fine male has since lived in the Regent's Park collection. In Sumatra the short-haired species is commonly trained to gather cocoa-nuts, as noticed by Raffles, and recently by an American traveller, Mr. A. S. Bickmore.†

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* Archives du Muséum, tom. v. p. 532, pl. xxvi.

The long-haired species distinctly tends to connect the Malayan Pig-tail Monkey with the series of Rhesus-monkeys; and one of these, *I. sancti-johannis*, Swinhoe, inhabiting the islets near Hongkong, is described to be "like a Rhesus with a very short tail." Another Chinese species, *I. lasiotus*, Gray,‡ was described and figured as tail-less; but it is a common practice among Chinamen to deprive Monkeys of their tails, as was found on *post-mortem* examination to have been effected in the present instance, and the animal was otherwise like a Bengal Rhesus-monkey, only much larger. There is reason to believe that it inhabits the province of Tse-Chuen, whence probably it ranges southward into Hainan, in which island a Rhesus-like Monkey was obtained by Mr. Swinhoe, who regarded it as identical with the Bengal species. Another monkey of the same group inhabits Formosa, *I. cyclopis*, Swinhoe,§ small and dark in colour. Then, besides *I. erythræus*, (*Simia erythræa*, Schreber, *S. rhesus*, Audebert), of Bengal and Upper India, there are *I. pelops*, Hodgson, in the Himalaya, and *I. assamensis* (*M. assamensis*, M'Clelland, = *M. problematicus*, Gray, = *M. rhesosimilis*, Sclater, P. Z. S. 1872, p. 495, pl. 25), originally described from Assam, and since obtained from the Bengal Sundarbáns.|| It

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* [This remark seems applicable only to the females and young, for the adult males are well known to be very fierce. A full-grown *M. nemestrinus* is nearly as large and formidable as an ill-conditioned mastiff.—J.A.]

† "Travels in the East India Archipelago" (1868), p. 478.

‡ P. Z. S. 1868, p. 60, pl. vi.; also Sclater, *ibid.* 1871, p. 221.

§ P. Z. S. 1862, p. 350, pl. xlii.; 1864, p. 711; 1870, p. 615, and woodcut.

|| "Supposed new Monkey from the Bengal Sundarbáns," J. Anderson, M.D., P.Z.S. 1872, pp. 529–533, figure of skull and skull of *M. rhesus*.

is only quite recently that the distinctions of these animals have become tolerably understood. Even another of them has been described by M. Adolphe Milne-Edwards as *M. tchiliensis*,[*] from "Tche-ly," which, to judge from the published figure of a female, is not unlikely to prove identical with *I. pelops*.[†] So far as known, the Pig-tailed Monkeys are the only representatives of the sub-group in the Indo-Chinese and Malayan countries; but another and kindred sub-group, indeed hardly separable, that of the Stump-tail Monkeys, has at least one Indo-Chinese representative.

4. INUUS SPECIOSUS.[‡]

Macacus speciosus, F. Cuvier, Mamm. Lithog.; *nec apud* Temminck, Faun. Japon. t. 1; *M. arctoides*, Is. Geoffroy, Zoo. de Voy. de Belanger, 1830; Mag. de Zool. 1833, Mamm., t. 2; *M. brunneus*, Anderson, P. Z. S. 1871, p. 628; 1872, p. 628, pl. xii.

The brown Stump-tail Monkey, described by M. Isidore Geoffroy St.-Hilaire from Cochin-China, and since obtained in Káchár, and by Dr. Anderson in the Kákhyen hills to the East of Bhamo.

There are several nearly-allied species of Monkey with very short naked tail, and one in Japan in which the same kind of tail is fully clad. The latter was identified by Prof. Temminck with the *Macaque à face rouge*, *M. speciosus*, F. Cuvier, but it is not probable that the French zoologist should have obtained the Japanese species, and his figure applies much better to the present one, which he is far more likely to have received from Cochin-China. In this case the Japanese monkey might bear the name of *I. fuscatus*, formerly applied to it in the Leyden Museum. Together with living specimens of *I. speciosus*, as here recognized, there was received at the London Zoological Gardens a very similar monkey which, at first sight, appeared like a rufous individual of the same, but on minute comparison of the living animals it was adjudged to be different, and has been figured and described as *Macacus rufescens*, Anderson.* A second specimen of it has since been received. Its habitat is unknown. Another allied species, brown, with hair upon the head much lengthened, constitutes the *M. melanotus*, Ogilby;† habitat also unknown, as the assigned habitat of Madras cannot be accepted. M. Fred. Cuvier likewise figures *M. maurus* (*M. inornatus*, Gray, Proc. Zool. Soc. 1866, p. 202, pl. xix.), a dark and black-faced Monkey of the same group, which is believed to inhabit Borneo; and *M. ochreatus*, Ogilby (*M. ocreatus* apud Sclater, Proc. Zool. Soc. 1870, p. 383, pl. lxxxii., and *M. fuscatus*, Schinz, apud Gray), is believed to come either from Celebes or one of the Philippines. The *Synopithecus niger* apud Gray (*M. niger*, Desm.), formerly supposed to inhabit Celebes, would appear now to be a Philippine species. There is much yet to be learned respecting the exact habitat, or the geographical range, of all of these various stump-tailed Monkeys. One of great size, *M. tibetanus*, Ad. Milne-Edwards,‡ has recently been described to inhabit "the coldest and least accessible forests of Eastern Thibet," and this one has the short tail clad as in the Japanese species.

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[*] Recherches sur les Mammifères, p. 227, plates 32, 33.

[†] [*M. tchiliensis* is apparently the same monkey described by Dr. Gray (*l.c.*) as *M. lasiotus*.—J. A.]

[‡] [Dr. Murie has identified a Macaque that lived in the Zoological Society's Garden, London, as an example of *M. speciosus*, F. Cuv. and Geoff. St.-Hil., and he has pointed out certain structural characters which separate it from a monkey which he has regarded as *M. arctoides*, Geoff. St.-Hil. This last-mentioned specimen had been described by Dr. Anderson as a new species under the name of *M. brunneus*. *M. arctoides* was characterized by Geoff. St.-Hilaire as "une espèce très distincte de la précédente (*M. speciosus*) par ses longs poils plusieurs fois annelés de brun et de roux-clair, . . ." and he also says that the black-faced *M. maurus* is separated by its uniformly brown hair from *M. arctoides*, which has well annulated hair, whilst *M. brunneus* has its hair of a uniform colour.—J. A.]

*5. MACACUS CYNOMOLGUS.

Simia cynomolgus, L.; *Macaque* of Buffon; *M. carbonarius*, F. Cuv., Mamm. Lithog.; Blyth, J. A. S. B. xvi. p. 732; *M. aureus*, Is. Geoff., Arch. Mus. tom. ii. p. 566, Bélanger's Voyage, Atlas, f. 2, golden rufous variety; *Cercopithecus cynosurus* apud Helfer. *Myouk-ta-nya*, Arakan.

Two mounted skins of the Crab-eating Monkey in the British Museum, erroneously marked from "India," represent the Burmese type, very inferior in colour, without any yellowish tinge, and having no trace of crest on the vertex; the face blackish in the living animal, with strongly contrasting white eye-lids, as in the African Monkeys known as Mangabeys. As seen alive together with the ordinary crested race of the Malayan peninsula and islands (*Aigrette* of Buffon, *Simia aigula*, L., *S. fascicularis*, Raffles, *M. cristatus*, Gray, founded on an albino!), there is considerable contrast of appearance, although the skulls are not distinguishable;§ the face of the latter is much less dark, and the colouring of the upper parts is mostly yellowish. The Philippine race (*M. palpebrosus*, Is. Geoff.) resembles it, but is considerably darker in hue; and a living specimen received from Siam in the London Zoological Gardens is like the Philippine race, but with the face as pale as in *M. radiatus* of Southern India. Another monkey of the kind recently examined,

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[*] P. Z. S. 1872, pp. 204, 495, and pl. xxiv.

[†] *ibid.* 1839, p. 31.

[‡] Recherches sur les Mammifères, p. 244, plates 34, 35.

[§] The skulls of two adults from Arakan are described in J. A. S. B. vol. xiii. p. 474.

from an unknown locality, is brightly tinged with yellowish above, but has no trace of crest on vertex, the hair of the crown lying very flat, and the face is but slightly infuscated. *M. carbonarius*, F. Cuv., is asserted to be from Sumatra; and upon a casual individual variety from Pegu M. Is. Geoffroy founded his *M. aureus*, which he elsewhere states to inhabit Sumatra and "vraisemblement Java." Moreover, according to M. Bélanger, the orange-coloured *M. aureus* is commonly to be purchased in Calcutta, which decidedly is not the case. Major Berdmore sent the skin of a young example of the same occasional variety from Mergui; but it can be safely asserted that there is no established race of such a colour, like the Patas monkey, *Cercopithecus ruber*, of Abyssinia. *M. philippinensis,* Is. Geoff.,* is founded on a crestless albino, which has assuredly no claim to be regarded as a peculiar species. Another figure of a mature albino given by Crawfurd in his "Embassy to Siam and Cochin-China," one of a couple of such animals he saw at Bangkok, well represents the Burmese race without a trace of top-knot. The Monkeys of this type are so commonly conveyed about from port to port, not only in European but in native vessels, that erroneous localities are apt to be assigned to specimens; but it is certain that no long-tailed Monkey of the group with fully haired forehead inhabits the region westward of the Bay of Bengal. How far northward of Akyab the *M. cynomolgus* extends its range has yet to be ascertained, but it may be safely averred that there is no such animal in the Bengal Sundarbáns. The corresponding Indian sub-type, exemplified by *M. radiatus* of S. India, brown with pale face, and *M. pileatus* of Ceylon, rufous with dark face, has a semi-nude forehead and longish hair on crown radiating from a centre. This sub-type does not occur eastward of the Bay of Bengal, though a living specimen of *M. radiatus* was sent from Formosa by Mr. Swinhoe,† who then—mistaking it for his subsequently described *Inuus cyclopis*—believed that it inhabited the camphor forests of the interior of that island. In his "Catalogue of the Mammals of China, inclusive of those of Formosa,"‡ he makes no reference to such a species. Upon certain of the Nicobar Islands the Aigrette Monkey has been probably introduced, as, according to the Abbé de la Caille, it was in the Mauritius by the Portuguese. There it had become numerous in the last century, and its habits, in a state of freedom, as observed upon that island, are described in Grant's "History of the Mauritius," published in 1801. In all probability the present Philippine race is not indigenous to that great archipelago.

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* Arch. du Museum, ii. p. 568, t. 33.

† J. A. S. B. xxix. note to p. 88.

‡ P. Z. S. 1870, p. 615.

Fam. **Colobidæ.**

Long-tailed Monkeys, which have no cheek-pouches, the stomach sacculated, and which subsist to a considerable extent on green foliage.

*6. PRESBYTES CRISTATUS.

Simia cristata, Raffles; *Semnopithecus pruinosus*, Desmarest; *S. phayrei*, Blyth, J.A.S.B. xvi. p. 733; *S. argentatus*, Bl., MS., Horsfield's Catalogue, No. 8. *Myouk-huyo*, Arakan.

The Silvery-leaf Monkey inhabits Arakan, Tenasserim provinces, Malayan peninsula, Sumatra, Banka, and Borneo.

Of a somewhat glistening or silvery dark ash colour, with white under-parts; a conspicuous crest on the vertex, and long whisker-tufts, which conceal the ears on a front view; face leaden black, contrasting with pinkish flesh colour on the mouth and lips, extending to the lining of the nostrils, besides which a large semi-circular mark of a paler and more livid tint occupies the inner half of each orbit. Three small living young sent from Ramri Island by Captain J. R. Abbott were quite similar in colouring to the adults, showing no trace whatever of rufous; but *P. cristatus* is described to have the young bright rufous, as in some of the allied species, and certainly the figure assigned to the young of *P. cristatus* in the great Dutch work by Professor Temminck and Dr. S. Müller, represented of a rufous colour, and with ears conspicuously visible on a front view of the face, can hardly refer to the Arakan species, which nevertheless appears to be true *P. cristatus*. Writing of *P. obscurus* and *P. melanopus* (*P. albo-cinereus* apud Schinz), in the Malayan peninsula, Dr. Cantor remarks that "both attain to the same size, have in common the shape of the body, the white marks on the face, and the general distribution of colour;" while of *P. cristatus* he states that "the whitish colour on the eyes and mouth is present, though less distinct than in the preceding two species."* Those markings, however, could not be more conspicuously so than in the three young examples from Ramri already noticed, one of which is now mounted in the India Museum, London.

A species is referred to *P. alboeinereus* by Dr. Anderson, as being "common on the banks of the Tapeng;"† and *P. alboeinereus* of the Malayan peninsula *apud* Schinz and Cantor must bear the name *P. melanopus*, Geoff. (*Semnopitheeus siamensis*, S. Müller, = *S. nigrimanus*, Is. Geoffroy, = *S. cinereus*, Gray, and the young *S. dorsatus*, Waterhouse). It occurs commonly in collections from Malacca, and as it has been received from Siam, it is likely to occur in the Tenasserim provinces. One distinguishing character of it is that it has two lateral radiating centres of hair upon the crown, the hair meeting and being pressed upwards between them. The small young resemble the adults, excepting that their colours are more strongly contrasted.

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* J. A. S. B. xv. p. 175.

† "Report of Expedition," etc., p. 271.

7. PRESBYTES OBSCURUS.

Semnopithecus obscurus, Reid, P. Z. S. 1837, p. 14; *S. leucomystax*, Tem.; *Simia maura* apud Raffles; *S. albocinereus*, Is. Geoffroy; *S. halonifer*, Cantor; probably *S. maurus* apud Helfer; ? *S. sumatranus*, S. Müller, apud Schinz; *S. cristatus* in the Atlas to "Voyage au pole sud," t. 3. *Myook-myet-gwen-phyoo* (Mason).

The Dusky-leaf Monkey is the most common species of the genus in the Malayan peninsula, from which its range extends at least to the province of Mergui, where it was obtained by the late Major Berdmore. It has also been received from Siam, and is likewise an inhabitant of Sumatra, if not also of Borneo. The adults are blackish, with hair upon the nape lengthened and conspicuously whitish. The newly born young are of a vivid golden-ferruginous colour, which soon changes to dusky-ash, and is continued latest upon the tail.* This may be the species which Mason refers to as being "found, in considerable numbers, in the interior" of the Tenasserim provinces; but, he adds, "it is not so numerous as the other Monkeys and the Gibbons." He also remarks that "the large flowers of the *Dillenia*, and many others, are much sought after by these monkeys as food."

8. PRESBYTES CHRYSOGASTER.

Semnopithecus chrysogaster, Lichtenstein; *S. potenziani*, C. L. Bonaparte, apud Peters, P. Z. S. 1866, p. 429.

The mounted skins of an adult female and young, procured by Helfer somewhere in the Tenasserim provinces, are in the Berlin Museum. By the courtesy of Professor W. Peters I have been favoured with coloured drawings of those specimens. The mature animal has the upper parts, limbs, and tail blackish, the hairs ferruginous on the basal half; slight band crossing the forehead, cheeks, front, throat, and front of neck, sullied white; rest of the lower parts deep and bright ferruginous, which tinges the inner side of the limbs; face colourless, or pinkish white. Young wholly pale ferruginous, somewhat darker on the hands and feet. There is a slight compressed crest on the vertex, but no distinct whisker-tufts, or lengthened hair on the nape. It is highly probable that some adults are wholly ferruginous, as happens with *P. maurus* in Java (the so-called *S. pyrrhus*, Horsf., = *S. auratus*, Geoff.), and with *P. melalophus* in Sumatra, the so-called *P. nobilis*, Gray; while it is likely that there is a melanoid phase of *P. rubicundus* of Borneo.*

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* J. A. S. B. xvi. p. 734.

Before seeing the coloured drawings sent by Professor Peters, I suspected that *P. chrysogaster* would prove identical with *P. pileatus*, Blyth,† which is common in the hills bordering on Sylhet and those of Tippera and Chittagong, and the old males of which are deeply tinged with ferruginous on the lower parts. Females and young have the lower parts white or but faintly tinged with ferruginous, and the rest of the coat is of a pure grey, the face black, and there is no crest, but the hairs of the crown are so disposed as to appear like a small flat cap laid upon the top of the head. The old males seem always to be of a deep rust colour on the cheeks, lower parts, and more or less on the outer side of the limbs; while in old females this rust colour is diluted or little more than indicated. A mature male which I possessed alive was an exceedingly gentle animal, and the species is akin to *P. maurus* of Java, though so different in colouring. It is likely to occur in the northern part of Arakan.

9. PRESBYTES BARBEI.

Presbytes barbei, Blyth, J. A. S. B. xvi. p. 374.

This species is closely allied to, if not identical with, *P. femoralis*, Horsfield (=*P. chrysomelas*, Tem.), of the Malayan peninsula and Sumatra, the female of which is figured of a brown colour by MM. Temminck and S. Müller; but adults of both sexes described as *P. barbei*, from skins, minus the skull, procured in the interior of the Tippera hills, were black. The colour is probably variable. According to Cantor, the face during life is intense black, except the white-haired lips and the chin, which are of a milk-white colour. It is another likely species to occur in the Indo-Chinese region; and from the Malayan peninsula Dr. Cantor gives four species of this genus, viz. *P. cristatus*, *P. femoralis*, *P. obscurus*, and *P. melanopus*; while the remarkable and very handsome *P. nemæus* was observed plentifully in Cochin-China by Crawfurd, whence also has lately been described and figured *P. nigripes*, Ad. Milne-Edwards.‡ M. Milne-Edwards, jun., has also figured and described *Rhinopithecus roxellana*, a very remarkable animal of this group from the same forests of Eastern Tibet as are inhabited by *Macacus tibetanus*.

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* In the Calcutta Museum there is a brown specimen of the common *P. cephalopterus* of Ceylon.

† J. A. S. B. xii. p. 174, xiii. p. 467, xvi. p. 735.

‡ Nouv. Arch. du Mus., tom. vi., Bulletin p. 7, t. 1.

Sub-order LEMURIA.

Fam. **Nycticebidæ.**

*10. NYCTICEBUS TARDIGRADUS (J. 10).

Nycticebus tardigradus, F. Cuv., *N. bengalensis*, Geoffroy; "Sloth" of Anglo-Indians, and doubtless, therefore, "the little *Bradypus*" of Helfer.[*] *Myouk-moung-ma*, "Monkey's concubine," Mason.

The Slow Loris is generally diffused, but from its habits not much observed. The range of this genus extends to Eastern Bengal, and I have been assured, on good authority, that it inhabits the island of Préparis, though it has not been met with either in the Andaman or Nicobar Islands. Vosmaer's figure (1770) of his "Bengaalschen Luiaard" very well represents the race inhabiting Sylhet and Arakan. In Malacca it is more deeply coloured; and M. Ad. Milne-Edwards separates that of Siam and Cochin-China by the name *N. cinereus*.[†]

Sub-order PLEUROPTERA.

Fam. **Galæopithecidæ.**

11. GALÆOPITHECUS VOLANS.

Lemur volans, L.; *Vespertilio admirabilis*, Bontius; figured in Marsden's "History of Sumatra," pl. ix. *Myook-hloung-pyau*, i.e. embryo-monkey flying, Mason.

The range of the Cobego, a very remarkable but common Malayan animal, extends certainly to Mergui, where skins of it were procured by Major Berdmore; but Mr. Dunn states that he possessed a living specimen that was obtained about one hundred miles up the Koladyne river, which flows from the North into Akyab harbour! He was moreover positive about the correctness of the identification.[‡] According to Sir T. Stamford Raffles, writing in 1820, "this animal, the *kuburg* of the Malays, is too well known to require description. It usually hangs from the branch of a tree suspended by its four hands. . . . . Mr. Marsden's figure gives a very good idea of this animal."[§] Mr. Wallace remarks that "it is sluggish in its motions, at least by day, going up a tree by short runs of a few feet, and then stopping a moment as if the action was difficult. It rests during the day, clinging to the trunks of trees, where its olive or brown fur, mottled with irregular whitish spots and blotches, resembles closely the colour of mottled bark, and no doubt helps to protect it. Once, in a bright twilight," he adds, "I saw one of these animals run up a trunk in a rather open space, and then glide obliquely through the air to another tree, on which it alighted near its base, and immediately began to ascend. I paced the distance from one tree to the other, and found it to be seventy yards; and the amount of descent at not more than thirty-five or forty feet, or less than one in five. This I think proves that the animal must have some power of guiding itself through the air; otherwise in so long a distance it would have little chance of alighting exactly upon the trunk. Like the *Cuscus* of the Moluccas, the *Galæopithecus* feeds chiefly on leaves, and possesses a very voluminous stomach and long convoluted intestines. The brain is very small, and the animal possesses such remarkable tenacity of life, that it is exceedingly difficult to kill it by any ordinary means. The tail is prehensile, and is probably made use of as an additional support when feeding. It is said to have only a single young one at a time, and my own observation confirms this statement, for I once shot a female, with a very small blind and naked little creature clinging closely to its breast, which was quite bare and much wrinkled, reminding me of the young of marsupials, to which it seemed to form a transition. On the back, and extending over the limbs and membrane, the fur of these animals is short, but exquisitely soft, resembling in its texture that of the Chinchilla."* Raffles, however, states that it produces two young at a time, and Mr. A. Adams, who accompanied Sir E. Belcher in the exploring voyage of H.M.S. "Samarang," found two young in one which he dissected. He observed this animal "both in Borneo and Basilan in a wild state. It is crepuscular," he adds, "and hangs suspended during the day to the under surface of boughs in the tops of high trees. When it moves, it seems to shuffle and scramble among the leaves, and sometimes drops suddenly from its elevated position. It feeds on leaves, and the stomach of one I examined was filled with the remains of the foliage of *Artocarpus* and other trees. At Sarawák I had a living Cobego in my possession, which was procured on the occasion of felling some trees, in the top of one of which the animal was suspended. It was very inactive on the ground, and did not attempt to bite or resist."† "In several shot on the hill at Pinang," remarks Dr. Cantor, "the stomach" contained vegetable matter, but no remains of insects. In confinement, plantains constitute the favourite food, but deprived of liberty the animal soon pines and dies."‡

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[*] J. A. S. B. vii. p. 859.

[†] Ann. Sc. Nat. 1837, vii. p. 161, Nouv. Arch. de Museum, iii. Bulletin p. 9, pl. 3.

[‡] P. Z. S. 1863, p. 370.

[§] Tr. Lin. Soc. xiii. p. 248.

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* Wallace's "Travels in the Malay Archipelago," vol. i. p. 135.

† Notes, etc. (1848), p. 265.

‡ J. A. S. B. xv. p. 178.

According to Horsfield, the Cobego "lives entirely on young fruits and leaves; those of the cocoa-nut and of *Bombax pentandrum* are its favourite food, and it commits great injury to the plantations of these, which surround the villages of the natives" of Java. In that island it is "confined to particular districts, where it is met with chiefly on isolated hills, covered with a fertile soil, and abounding with young luxuriant trees, the branches of which afford it a safe concealment during the day. As the evening approaches, it leaves its retreat, and is seen in considerable numbers making oblique leaps from one tree to another; it also discovers itself by a croaking, harsh, disagreeable noise. If an individual is forced from its usual abode, it advances by slight awkward leaps, until it meets with an object on which it can ascend by its claws."

This animal occurs in Siam, and is probably far from rare in the valley of the Tenasserim river. By some zoologists it is referred to the order or sub-order *Insectivora*; although, it would seem, to no extent an insect-eater, according to all trustworthy observation.

Order CHIROPTERA.

Tribe HARPYDIA.

Harpies or Roussettes; Frugivorous Bats which do not hybernate, and are peculiar to warm climates. They have no American representatives.

Fam. **Pteropodidæ.**

*12. Pteropus medius (J. 12).

Pteropus medius, Temminck, Monog. i. p. 176; *Pteropus edwardsii*, Geoffroy, Ann. Mus. xv. p. 192 *partim*, apud Peters. *Len-hwai* or *Len-wet*, Mason.

The common Indian Roussette, or "Flying-fox."

Some of the larger species of this genus are by no means well defined apart, if really differing to an extent which should be regarded as specific. Prof. Peters has elaborately monographed the genus *Pteropus*,* and subsequently the rest of the family,† of which he recognizes ten genera. He admits twenty-six species, with two sub-species, of *Pteropus* as then known to him. The ordinary Indo-Chinese Roussette is the same as the Indian one, and wherever found varies to some extent in colouring, the back being more or less pale and the lower-parts more or less suffused with black or wholly fulvous; but in the Southern Tenasserim provinces it seems to grade into the more deeply-coloured *P. edulis* of Peron and Lesueur, as figured in Horsfield's "Zoological Researches in Java," which is recognized as distinct by Professor Peters, who refers to it *P. edulis et javanicus*, Desm., *P. edulis, funereus, et pluto*, Tem., *P. nicobaricus** and *Pachysoma giganteum*, Fitzinger. It is probable, therefore, that the latter, if truly distinct, should be recognized as an inhabitant of the Tenasserim provinces; but I suspect that it will be found to grade into the other.

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* "Bericht der Akademie zu Berlin," May 27th, 1867.

† *ibid.* Dec. 19th, 1867.

13. CYNONYCTERIS AMPLEXICAUDATA (J. 13).

Pteropus amplexicaudatus, Geoff., Ann. and Mus. xv. p. 96; Peters, in P. Z. S. 1871. p. 513; *P. leschenaultii*, Desmarest; *P. seminudus*, Kelaart.

Tenasserim provinces, Siam, Amoy, Formosa, S. India and Ceylon, Malay countries to Timor, Moluccas, Philippines.

14. EONYCTERIS SPELÆA.

Eonycteris spelæa, Dobson, Journ. As. Soc. B. 1873, p. 204; *Macroglossus spelæus*, Dobson, J. A. S. B. xl. pl. x. fig. 3, 4, p. 261.

Tenasserim, Siam.

The habit of resorting to caves implied by the specific name of this kiodote has not, that I am aware of, been previously remarked of any of the family, but is likely to be common to sundry of the smaller *Pteropodidæ*. [Specimens of *Cynonycteris amplexicaudata* have since been obtained by Mr. W. T. Blanford, in the Némakdun Salt Caves, Kishm Island, in the Persian Gulf.] †

[15. MACROGLOSSUS MINIMUS.

Steropus minimus, Geoff. Ann. du Mus. xv. p. 96 (1810); *Steropus rostratus*, Horsf. Zool. Research. in Java (1825); *Macroglossus minimus*, Temminck, Monogr. Mammal. ii. p. 96; Horsf. Cat. Mamm. Mus. E. I. Comp. p. 29; Blyth, Cat. Mamm. Mus. As. Soc. Beng. No. 57; Dobson, J. A. S. B. 1873, p. 205.

A specimen in the Indian Museum, Calcutta, was obtained by Major Berdmore in 1858, in the valley of the Sitang river, Tenasserim province. This, the smallest species of frugivorous bat, has a rather wide distribution, extending from the Himalaya to North Australia.]

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* [*Pteropus nicobaricus*, Dobson, J. A. S. B. 1873, p. 198. Quite distinct from both *P. edulis* and *P. medius*.—G.E.D.]

† [Dobson in P. A. S. B. May, 1873, p. 110.]

*16. CYNOPTERUS MARGINATUS (J. 14).

Vespertilio marginatus, B. H.

A common and very generally diffused species, inhabiting, it would seem, everywhere that bananas grow in S.E. Asia and its islands.

Its flight is particularly light and buoyant, and is performed by rapid movement of the wings, as it hovers around a fruit-tree, being quite unlike the slow winnowing motion of the wings of the larger "Flying-foxes." Both, however, travel to vast distances in the course of a night's foraging.* The neck and sides of this Bat are often strongly tinged with bright ferruginous, which would appear to indicate full maturity.† It is an extraordinarily voracious feeder, and will devour more than its own weight at a meal, voiding its food apparently but little changed while still slowly munching away. Of the guava, though a soft mellow fruit, it swallows only the juice, opening and closing its jaws very leisurely in the act of mastication, and rejecting the residue. A pair have now been living for some time, and have reared a young one, in the London Zoological Gardens, where also the larger species of this family thrive and propagate freely. A species from the Andamans is described as *C. brachysoma*, Dobson.‡

Tribe SPECTRA.

Insectivorous Bats chiefly, which hybernate where the temperature is low. *Len-no*, Mason.

Sub-tribe PACHYURA.

Thick-tailed Bats; the tail more or less protrusile and sheathing within the interfemoral membrane; the wings long and narrow, and contracting with a double flexure.

Fam. **Noctilionidæ.**

Thick-tailed Bats.

17. TAPHOZOUS THEOBALDI.

Taphozous theobaldi, Dobson, P. A. S. B. 1872, p. 152; *T. saccolaimus* of Burma, *passim*.

Tenasserim provinces.

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* *vide* Hutton, P. Z. S. 1872, p. 693.

† [I have observed this in adult females only, and believe it to be a secondary sexual character, like the epaulets in *Epomophorus*.—G. E. D.]

‡ J. A. S. B. xl. p. 260.

18. T. longimanus (J. 31).

Taphozous longimanus, Hardw. Trans. Lin. Soc. vol. xiv. tab. xvii. p. 525.

Rangoon.

This animal is pale fulvescent when young, and becomes gradually blacker with age; the very old being somewhat of a deep black, but with base of fur white.

19. T. melanopogon (J. 32).

T. melanopogon, Tem.

[The Indian Museum possesses a specimen of an adult male of this species (with the characteristic black beard well developed), received from Amherst, in Lower Burma.]

Other species are sure to occur in Burma, and very probably the *Cheiromeles torquatus*, Horsfield, a large naked bat akin to *Taphozous*, with a narrow collar of hair, and the pollux somewhat opposable, which was procured by Finlayson in Siam, and also inhabits Malacca, Borneo, and Java. It emits a highly offensive odour. *Cheiromeles* conducts to *Nyctinomus* (see *Dysopes*), and of this genus *N. plicatus* may be confidently looked for, and to the south probably the darker race described as *N. tenuis*, Horsfield, which occurs in the Malay Peninsula. Also *Nyctinomus johorensis*, Dobson,[*] from Johore in the Malay Peninsula. Of a larger species, *N. insignis*, Blyth,[†] which Mr. Swinhoe identifies with the African *N. ruppellii*, and which should therefore occur in other parts of Southern Asia, he remarks, "I have often, on a cloudless evening, at Amoy, seen these Bats flying along high in the air, being easily distinguished by the narrowness of their wings. When irritated," he adds, "the creature has a habit of exposing its tail, and of sinking its eye into the socket and thrusting it out again. The membrane extending from the tail to the legs is wrinkled, and covers the tail like a glove, so as to slip up or down as the creature wishes to expand or contract its interfemoral wing, or, in nautical language, to shake out or take in reefs."[‡] In *Taphozous* the tail withdraws entirely within the membrane.[§] [I have compared the specimen labelled *N. insignis* in the

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[*] P. A. S. B. Jan. 1873, pp. 22, 23; Nyctinomus (Chærephon) johorensis, J. A. S. B. 1874, p. 144.

[†] Cat. Mam. Mus. As. Soc. Bengl. No 87.

[‡] P. Z. S. 1870, p. 619-690.

[§] A classification of the genera of *Chiroptera*, by Prof. W. Peters, is published in the *Monatsbericht der Königl. Akademie der Wissenschaften zu Berlin*, May 22nd, 1865, Indian Museum, Calcutta, with *N. cestonii*, Savi, of Southern Europe, and can find no difference whatever. That specimen was sent from Amoy by Mr. Swinhoe, and may therefore be safely assumed to be identical with the specimen referred by him to *N. ruppellii.*—G.E.D.]

[Mr. Blyth has followed the example of other Zoologists in placing *Rhinopoma* next *Megaderma*. Although connected with *Megaderma* through *Nycteris*, I believe that this genus is much more allied to *Taphozous*, and should therefore be classed with the *Noctilionidæ.*—G.E.D.]*

Sub-tribe LEPTURA.

Bats with ample wings, which contract with double flexure; the tail (when present) slender and fixed in the interfemoral membrane.

Fam. **Megadermatidæ.**

20. RHINOPOMA HARDWICKII (J. 30).

Rhinopoma hardwickii, Gray.

India, Indo-Chinese, and Malayan countries.

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p. 256. In this classification his fifth family, BRACHYURA, comprises *Mysticina*, *Noctilio Taphozous*, *Emballonura*, *Diclidurus*, and *Furia*; and his sixth family, MOLOSSI, is composed of *Molossus* (seu *Nyctinomus*) and *Cheiromeles*. They seem to range better as two subfamilies of *Noctilionidæ*, *Cheiromeles* having so much affinity with *Taphozous*. Prof. Peters recognizes in all six families of Bats, which are named by him as follow:—1. PTEROPI = *Pteropodidæ*.—2. MEGADERMATA = *Megadermatidæ* (comprising *Rhinopoma*, *Megaderma*, *Nycteris*, and *Nyctophilus*, all foreign to America).—3. RHINOLOPHI = *Rhinolophidæ* (also foreign to America).—4. VAMPYRI = *Vampyridæ* (with four subfamilies, exclusively American).—5. BRACHYURA.—6. MOLOSSI.—7. VESPERTILIONES = *Vespertilionidæ* (with fourteen genera). In *Bericht der Akademie zu Berlin*, 1871, p. 301 *et seq.*, the same zoologist has supplied a monograph of the *Rhinolophidæ*, in which he recognizes twenty-nine species of *Rhinolophus*, twenty-four of *Phyllorhina*, and as a third genus only one known species, the *Cœlops Frithii*, nobis.

* [I do not agree with the author in placing *Rhinopoma* in the same family with *Megaderma*. *Rhinopoma* is, in my opinion, closely related to *Taphozous*. Its connexion with that genus is shown in the peculiar frontal depression, in the projecting muzzle and valvular nostrils, in the weak and deciduous upper incisors, in the form and folding of the wing, in the production of the tail beyond the interfemoral membrane, and even in the microscopical structure of the hair. Further, the species of these genera show remarkable similarity in their habits, and in them an enormous deposit of fat is heaped up about the root of the tail immediately before the hybernating season. Similar deposits of fat have not been observed by me in any other genera of Chiroptera.—G.E.D.]

21. MEGADERMA SPASMA.

Megaderma spasma, L.; *M. horsfieldi*, Blyth, Catal. No. 60; Horsfield's Catal. No. 39.

Tenasserim provinces.

The true *M. spasma* inhabits Ceylon and the Malayan countries generally; and the Indian *M. lyra* can hardly but occur in Arakan and Pegu, as it has been obtained at Amoy and in Formosa. The Bats of this genus are highly predatory, and Col. McMaster records that at Rangoon one killed on successive occasions two canary-birds. *Nycteris javanica*, Geoff., inhabits the Malayan peninsula, and should be looked for in the Tenasserim provinces.

Fam. **Rhinolophidæ.**

Sub-fam. RHINOLOPHINA.

Horse-shoe Bats.

22. RHINOLOPHUS CŒLOPHYLLUS.

Rhinolophus cœlophyllus, Peters, Proc. Zool. Soc. 1866, p. 426, and pl. 35.

Obtained by the late Lieut. Beavan in the valley of the Salween.

23. R. LUCTUS (J. 17).

Rhinolophus luctus, Temminck.

Indo-Chinese and Malayan countries, India (to lower region of the Himalaya), China, Philippines.

According to Captain Hutton, "this fine species commences its flight rather early in the evening, and does not soar high, like the smaller Bats in general, but remains below at about from twenty to thirty feet from the ground, wheeling with a somewhat heavy and noiseless flight around buildings and large trees in search of beetles and other insects. Indeed," he adds, "I think it may be truly said of all the larger species of" insect-eating "Bats, that they hawk for prey in the lower regions of the atmosphere, while nearly all the smaller ones ascend; and the reason is, that while the flies and minute insects are in the higher regions, the large beetles and other large insects, of which the smaller Bats could make no use, are found below among the branches of the trees. *R. luctus* appears usually to dwell in pairs, and does not associate in communities like some of the smaller species of its genus—though in a large cavern, affording ample room for them to dwell apart, several pairs may sometimes be found. I have taken them from the roofs of outhouses, and in wide caves in limestone rocks; but they appear to fly only in the warmer months of summer, remaining (at least such is the case at Másuri) in a semi-torpid state during the winter. It is possible, however, that in the warmer south-eastern climates of Sikhim and the Khásia hills they may be active likewise in the winter," as where winter is unknown.*

24. R. AFFINIS (J. 21).

Rhinolophus affinis, Horsfield, Zool. Res. Java, pl. 8, fig. A. B.

Indo-Chinese and Malayan countries; also Malabar and Ceylon, and not uncommon at Másuri, at an elevation of about 5000 to 6000 feet.†

"Like the preceding" (*R. luctus*), remarks Capt. T. Hutton, "this species is early on the wing, and may be seen in the evening twilight coursing slowly round the trees in search of insects, crunching the hard-winged beetles as it flies, with a sharp crackling sound. It flies so low as to be easily caught in a common butterfly net."

25. R. ROUXI (J. 22).

Rhinolophus rouxi, Temminck, Monog. ii. p. 306.

India, with Ceylon; Indo-Chinese countries; China.

26. R. PUSILLUS.

Rhinolophus pusillus, Temminck; *R. pusillus*, Dobson, Proc. As. Soc. B. 1872, p. 155.

Burma.

As a matter of course, other species remain to be observed. *R. minor*, Horsf., originally described from Java and common in the Malay countries, is also common at Másuri, at from 4000 to 6500 feet elevation.‡

Sub-fam. PHYLLORHININA.

27. PHYLLORHINA DIADEMA.

Rhinolophus diadema, Geoff.; Peters, in Proc. Zool. Soc. 1866, p. 426; *R. nobilis*, Horsfield, also Cantor; *Hipposideros lankadiva*, Kelaart.

Indo-Chinese and Malayan countries, Moluccas and Philippines, Ceylon.

The allied *P. armiger*, Hodgson, *H. diadema* apud Cantor, nec Geoffroy, and *H. swinhoii*, Peters, *olim*, must needs also occur, as it inhabits the Lower Himalaya, Ceylon, Malacca, and S. China (Amoy). Hutton remarks of it that, "like *Rhinolophus affinis*, this species may frequently be heard during its flight cracking and crunching the hard wings of beetles, which in the evening hours are usually abundant among the trees. The teeth are strong, and the *tout-ensemble* of its aspect is not unlike that of a bull-dog."*

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* P. Z. S. 1872, p. 695.

† Hutton, *l.c.* p. 696.

‡ Hutton, *l.c.* p. 698.

[28. P. MASONI.

Phyllorhina masoni, Dobson, J. A. S. B. 1872, p. 338.

This fine species, very similar to *P. diadema*, but differing from it in the form of the concave front surface of the transverse nose-leaf, which is divided into *two cells only* by a single central longitudinal ridge, has been found at Moulmain, and the single type specimen is in the Indian Museum, Calcutta. Closely allied to it, but much smaller, is *P. nicobarensis*, Dobson, from the Nicobars.†]

[29. P. LARVATA.

Phyllorhina larvata, Horsfield; Zool. Researches in Java.

Prome, Burma.‡

Extremely variable in the colour of the fur.]

[30. P. SPEORIS (J. 26).

Vespertilio speoris, Schreb. Säugeth. Suppl. Atlas.

A specimen of this species was found by me among several specimens of *P. larvata* collected by Dr. Anderson at Prome, Burma, during the first expedition to Yunan.—G.E.D.] §

31. P. BICOLOR.

Rhinolophus bicolor, Temminck, Monog. ii. p. 18, t. 32, fig. 9, 10; *Hipposideros fulvus*, Gray, Peters, Proc. Zool. Soc. 1871, p. 513, *vide* Dobson in P. A. S. B. 1872, p. 155.

P. bicolor inhabits the Malayan countries and Philippines, and was obtained by Hutton in the Deyra Doon and hills up to 5500 feet.

According to Mr. Dobson, the golden-coloured specimens examined proved to be pregnant females exclusively. Examples so coloured occur in several species both of *Rhinolophus* and *Phyllorhina*.‖

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* *vide* P. Z. S. 1872, p. 701.

† [J. A. S. B. 1871, p. 263.]

‡ [*vide* Dobson in P. A. S. B. 1872, p. 155.]

§ [The specimens preserved in the Indian Museum, Calcutta, corresponding to Catal. no. 77 (old coll.), are undoubtedly examples of *P. larvata*, Horsf.—G.E.D.]

‖ Cantor remarks, of two individuals of *Rhinolophus affinis*, "the male is reddish-brown above, light greyish brown beneath; the female is above golden-fulvous, which becomes lighter on the lower-parts."—J. A. S. B. xv. p. 181.

Others doubtless remain to be discovered in the Indo-Chinese countries, inclusive of *Cœlops frithii* (J. 29).

32. ASELLIA STOLICZKANA.

Asellia stoliczkana, Dobson; P. A. S. B. May, 1871, p. 106; J. A. S. B. vol. xl. p. 263; *Phyllorhina trifida*, Peters; P. Z. S. June, 1871, p. 513.

Specimens were obtained by Dr. F. Stoliczka and Mr. F. Day at Penang.

Fam. **Vespertilionidæ.**

Ordinary Bats.

*33. NYCTICEJUS LUTEUS (J. 43).

Nycticejus luteus, Blyth, J. A. S. B. vol. xx. p. 157; *Scotophilus heathii*, apud Swinhoe, P. Z. S. 1870, p. 619.

Arakan, and probably the rest of British Burma, unless far to the southward. "Very common in Canton in April and May."*

*34. N. TEMMINCKII (J. 44).

Vespertilio temminckii, Horsfield.

Generally diffused, except probably at high elevations. One of the most abundant of Bats throughout India up to the base of the Himalaya, as well as in the Indo-Chinese and Malayan countries, and the South of China.

35. N. CASTANEUS (J. 45).

Nycticejus castaneus, Gray.

This species or race, which merely differs from the last in having the under-parts nearly or quite as deeply coloured as the upper-parts, has been obtained at Dacca, although chiefly a Malayan race or variety. Jerdon refers to it as inhabiting Burma. Others are likely to occur, especially of small size, and not improbably the large and singularly adorned *N. ornatus* which has been received from the Khásia hills.

[I believe both *N. luteus* and *N. castaneus* are synonyms of *N. temminckii*. *N. luteus* is the perfectly adult *N. temminckii*. No difference whatever, except size, can be found on comparing recent specimens and skeletons. Specimens of *N. ornatus*, Blyth, were obtained by Dr. Anderson in the Kakhyen Hills, Yunan.—G.E.D.]

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* Swinhoe, l.c., *vide* also Hutton, P. Z. S. 1872, p. 706.

*36. VESPERUGO IMBRICATUS.

Vespertilio imbricatus, Horsfield; "young probably *V. abramus*, Tem., and *V. lobatus*, Gray; probably adult of *V. coromandelianus*, F. Cuv.," Dobson, in P. A. S. B. 1872' p. 156).*

A minute species, about the commonest and most generally diffused of Bats from the base of the Himalaya to Ceylon, as likewise in the Indo-Chinese and Malayan countries, and the South of China. It has also been recorded from Persia.† When disturbed in a room its flight is so exceedingly rapid that it can hardly be followed by the sight.

37. TYLONYCTERIS PACHYPUS.

Vespertilio pachypus, Temk., Monog. Mamm.; *Scotophilus fulvidus*, Blyth, J. A. S. B. vol. xxviii. p. 293; *Vesperus pachypus*, Dobson, P. A. S. B. 1871, p. 212; *Tylonycteris pachypus*, Peters, Monatsb. Akad. Berl. 1872, p. 704.

Tenasserim provinces.

38. KERIVOULA PICTA (J. 53).

Vespertilio pictum, Pallas.

This very beautifully coloured little Bat, as seen alive or quite fresh, occurs in British Burma, as in the adjacent parts of S.E. Asia.

[*39. VESPERTILIO HASSELTII.

Vespertilio hasseltii, Temm. Monog. Mammal. ii. p. 225; *Vesperugo hasseltii*, Wagner, Suppl. Schreb. Säugeth. v. p. 740.

This large-footed bat belonging to the same section of the genus (Subg. *Leuconoë*, Boie) as *Vespertilio capaccini*, Bonap., is readily distinguished from all other allied species by the very small size of the second lower premolar and its position quite internal to the tooth-row. Dr. Peters, who first detected the presence of this small premolar, remarks that the species was long considered as *Vesperugo* on account of the supposed absence of this tooth.§ Tenasserim province, Sumatra and Java.]

40. V. BERDMOREI.

Myotis berdmorei, Blyth, J. A. S. B. xxviii. p. 293.

A small species, akin to the European *V. pipistrellus*, obtained by the late Major Berdmore in the valley of the Sitang. "Of a dark fuscous hue, the fur slightly tipped with earthy-brown on the upper-parts, and much more largely with a paler (almost whitish) brown below; membranes dusky. Length 3¼ in., of which tail 1½ in.; expanse 9¾ in.; fore-arm 1½ in.; ear-conch (posteriorly) ½ in. Three specimens (females).

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* Mr. Swinhoe gives *Vesperugo abramus* (et *akokomuli*), Tem., and *V. imbricatus*, Tem., as distinct, P. Z. S. 1870, p. 618.

† J. A. S. B. xl. p. 461.

‡ P. Z. S. 1872, p. 710.

§ Monatsb. Berl. Akad. 1866.

[This species must ever remain doubtful, for the types referred to above cannot be found in the Indian Museum collection. They were absent from the collection of the Asiatic Society when it was transferred to the Indian Museum, Calcutta.—G.E.D.]

It need hardly be remarked that the foregoing is a meagre list of the *Chiroptera* which may reasonably be expected to inhabit the different provinces of British Burma; but it is a group which for various reasons is neglected by ordinary collectors, and one that to be investigated with tolerable success requires some special attention to be bestowed upon it. Only those zoologists who have made some study of the Bats can have an adequate idea of the multitudinous variety of them, not only as regards specific but very strongly marked divisional forms; and exceedingly little is as yet known of the diversities of habit which must needs accompany so much variation in structure.

Order SECundates

Sub-order CARNIVORA.

Fam. **Canidæ.**

41. CANIS RUTILANS (J. 137).

Canis rutilans, Müller; *vide* Murie, on "Indian Wild Dogs," P. Z. S. 1872, p. 715 *et seq.* *Tau-khwae* (Mason).

The "Dhole" is generally diffused through the forests, but apparently not common anywhere; it hunts in packs.

A Burmese female in the People's Park, in Madras, "upwards of three years old," is stated by Col. McMaster to answer to Hodgson's description of the *Buánsu* of Nipâl, "except in her height, which cannot be more than seventeen or eighteen inches." In Malacca and Sumatra the race, *C. sumatrensis*, Hardwicke, is smaller and deeper coloured, and the Tenasserim race is probably identical with it, whether or not so with that of India. In the latter there is considerable difference in the appearance of the animal according to season, the winter vesture being longer and paler in colouring, with the brush much more finely developed. This seasonal difference may well have given rise to some of the notions regarding a plurality of species.

*42. C. AUREUS.

Canis aureus, Lin.; *Myac Khwae* (Mason).

The Jackal is not uncommon at Akyab, and it has been shot in the vicinity of Prome, and at Thyetmyo; but in Arakan it has not passed the boundary of the Naf river.

Fam. Viverridæ.

Sub-fam. VIVERRINÆ (Civets and Genets).

*43. VIVERRA ZIBETHA (J. 119).

Viverra zibetha, Lin., S.N.T. 65; *Kyoung-myen*, Arakan.

The Grey Civet is a widely diffused species, which, Mr. Swinhoe states, inhabit China from Hongkong to Shanghai, as also the Chusan Archipelago, and the island of Hainan. Dr. Cantor procured it in the Malayan peninsula, Province Wellesley; and it inhabits Arakan, and probably is extensively diffused over the Indo-Chinese countries, as in Lower and Eastern Bengal, and the Tarai at the foot of the Eastern Himalaya.

*44. V. MEGASPILA.

Viverra megaspila, Blyth, J. A. S. B. xxxi. p. 331; *V. zibetha*, apud Waterhouse, Cat. Zool. Soc. Mus. 1838, No. 252; *V. tanggalunga*, apud Cantor, J. A. S. B. xv. p. 197, nec apud Gray. *Khyoung-myen*, Mason.

Large-spotted Civet. Of the same size as *V. zibetha*, with the body-markings large and black, and comparatively few in number, *i.e.* as compared with *V. civettina* of Malabar. I have seen flat skins of this animal from Prome, resembling those which Dr. Cantor procured in Province Wellesley, and one brought from Sumatra by Sir T. S. Raffles, which was formerly in the Museum of the Zoological Society in London. It is nearly allied to *V. civettina* of S. Malabar, but very different from *V. tanggalunga*, Gray, of the Malay countries, which is a much smaller animal, with more cat-like tail, and the spots of which are much smaller and more numerous. In the Philippine Islands it is probable that *V. tanggalunga* should be regarded as an introduced species.

*45. VIVERRICULA MALACCENSIS (J. 121).

Viverra malaccensis, Gmelin, S.N. 92. *Wa-young-kyoung-bank*, Arakan. *Kyoung-ka-do*, Mason.

The Common Viverette. It is abundant in the Indo-Chinese countries, as in India, S. China, and the Malayan peninsula and islands. There is a nearly allied species in Madagascar.

Sub-fam. PARADOXURINÆ (Musangs).

*46. PARADOXURUS GRAYI (J. 124).

Paradoxurus grayi, Bennet, P. Z. S. 1835, p. 118.

Hill Musang. Inhabits the Arakan hills.

*47. P. MUSANGA (J. 123).

Paradoxurus musanga, F. Cuv., Mamm. Lith. ii. t. 55. *Kyoung-woon-bank*, Arakan.

Common Musang. As common as in the neighbouring countries.

48. P. TRIVIRGATUS.

Paradoxurus trivirgatus, Temm. Monagr. ii. t. 63, fig. 1; *Kyoung-na-ga*, Mason.

The three-streaked Musang inhabits Tenasserim provinces, Malayan peninsula, Sumatra, and Java.

*49. P. LEUCOTIS.

Paradoxurus leucotis, Blyth, J. A. S. B. xxvii. p. 274; Horsfield's Catal. Mamm. India House Mus., No. 66. *Na-zwet-phyoo*, Arakan.

The white-eared Musang inhabits Sylhet, Arakan, and Mergui.*

*50. ARCTICTIS BINTURONG (J. 126).

Viverra binturong, Raffles, Trans. Lin. Soc. xiii. p. 253. *Myouk-kya*, or "Monkey-tiger," Arakan.

The Binturong inhabits the Mishmi hills, at the head of the valley of Assam, and occurs southward to the Straits of Singapore, and is also found in the islands of Sumatra and Java. Finlayson procured it in Siam.

Fam. Herpestidæ.

Mungoose.

*51. URVA CANCRIVORA (J. 134).

Urva cancrivora, Hodgson, J. A. S. B. vol. vi. p. 561. *Mwai-ba*, Arakan.

The crab-eating Mungoose is found in Nipâl, the Khásia hills, Arakan, Pegu, N. Tenasserim, Vokien hills near Amoy (Swinhoe). It is the only representative of the Mungoose group in British Burma.

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* The species found in the Andaman Islands appears to be identical with *P. leucotis*, Blyth. It was, however, described as a new form by the late Lieut.-Col. Tytler, and named after himself as *P. tytleri* (J. A. S. B. 1864).

Fam. Felidæ.

Cats.

52. Felis tigris (J. 104).

Felis tigris, Lin.; *Tigris regulis*, Gray, P. Z. S. 1867, p. 263. *Kya*, Arakan.

The Tiger. Common in the forests.

53. F. pardus (J. 105).

Felis pardus, Lin.; *Leopardus pardus*, Gray, P. Z. S. 1867, p. 263. *Theet-kya*, Arakan.

The Pard. Also common; and black individuals not rare in the Southern Tenasserim provinces and Malayan peninsula.

*54. F. macrocelis (J. 107).

Felis macrocelis, Temminck; *F. diardi*, F. Cuvier.

The clouded Tiger-cat. A skin has been obtained in the mountains which separate Arakan from Pegu, and the species is probably of general occurrence in the higher mountain forests. Crawfurd noticed a dressed skin of it in the market at Bangkok. As the animal increases in age, its ground-hue becomes more fulvescent, and there is much individual variation in its markings. I have never seen it from the Malayan peninsula, but it inhabits Sumatra and Borneo, as likewise the Eastern Himalayas, and the islands of Formosa and Hainan; doubtless, therefore, the intervening countries generally in suitable localities. Hodgson notes it from Tibet!

55. F. viverrina (J. 108).

Felis viverrina, Bennet, P. Z. S. 1833, p. 68.

The fishing Tiger-cat. Tenasserim provinces, and probably the lowlands generally of British Burma; also Camboja, S. China, Formosa, and all suitable parts of India, with Ceylon. This animal has coarse fur, for a *Felis*, and chiefly inhabits low watery situations, where it preys much on fish.

*56. F. undata (J. 110).

Felis undata, Demarest. *Theet-kyoung*, Arakan.

The Leopard-cat. Generally diffused. Specimens from Arakan and Tenasserim present the ordinary colours of Indian examples, with the body-markings resembling those of *Genetta afra*. Dr. Gray describes *F. tenasserimensis*,* but I cannot perceive that the flat skin upon which this is founded differs from ordinary *F. undata*.

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* P. Z. S. 1867, p. 400.

*57. F. CHAUS (J. 115).

Felis chaus, Gildenst. *Khyoung tsek-koon*, Arakan.

The Chaus. The author procured this species in Arakan, and Col. McMaster states that he "shot a very fine one in Burma." Egyptian specimens exhibited in the London Zoological Gardens do not differ in any respect, that I can perceive, from the common Indian species.

Mason refers to a species about the size of a domestic cat, "but its colour and markings are exactly those of a Tiger. These Cats," he adds, "are very abundant in the jungles, and occasionally venture into towns, where they make great havoc among the poultry." I could not well fail to have met with such a species, did it exist, and take leave to doubt that any small species of Cat is coloured and marked exactly like a Tiger. *F. undata* is doubtless intended, at least in part.

Mason also refers to an animal which he denominates the "Fire-cat," or "Fire-tiger," of the Burmans. This is very probably *F. temminckii*, Vigors (*F. moormensis*, Hodgson, and *F. chrysothrix*, Tem. *MS.*), which is found not only in Nipâl and Assam, but in the Malayan peninsula and Sumatra, and therefore may be expected to occur in the intervening territory. It has been lately figured by Dr. Sclater.*

Fam. Mustelidæ.

Sub-fam. LUTRINÆ (Otters).

*58. LUTRA NAIR (J. 100).

Lutra nair, F. Cuv. *Phyau*, Arakan.

Common on both sides of the Bay of Bengal.

*59. AONYX LEPTONYX (J. 102).

Lutra leptonyx, Horsfield, Zool. Res. Java.

Otter with minute claws. "Otters abound in some of the streams. In the upper part of the Tenasserim, a dozen at a time may be occasionally seen on the rocks of the river. The Burmese sometimes domesticate them, when they will follow a man like a dog" (Mason).† As common as the former species.

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* P. Z. S. 1867, pl. xxxvi. p. 816.

† No animals are more difficult to determine than the species of Otter, from their general similarity, which may lead to over-hasty identification of them, and the neglect to note specific differences which appear on minute examination. The skulls generally afford good means of discrimination.

Sub-fam. MUSTELINÆ (Martens, Weasels,* and Badgers).

*60. MARTES FLAVIGULA (J. 96).

Mustela flavigula, Boddäert.

Black-capped Marten. Khásia hills and Arakan.

Similar to Himalayan specimens, and differing from the Malayan race, found also in Formosa, by having much longer fur and a wholly black cap, instead of a brown cap with black periphery.

*61. HELICTIS NIPALENSIS (J. 95).

Gulo nipalensis, Hodgson, J. A. S. vol. v. p. 237; *Melogale personata*, Is. Geoffroy. *Kyoung-pyan* (Mason).

The Brock-weasel. Arakan, and common in Pegu.

It is decidedly identical with the species inhabiting Nipâl and Sylhet, if not also with *H. orientalis* (Horsf.) of Java; but distinct from *H. moschata*, Gray, of S. China and Hainan, and *H. subaurantiaca*, Swinhoe, of Formosa. Dr. Gray identifies *Melogale personata*, from the vicinity of Rangoon, with the Chinese *H. moschata*, judging—it may be presumed—from the figure rather than the description in the *Zoologie* of M. Bélanger's *Voyage aux Indes Orientales.*†

*62. ARCTONYX COLLARIS (J. 93).

Arctonyx collaris, F. Cuv., Mamm. Lith. iii. t. 60; *Arctonyx isonyx*, Hodgson. *Khway-too-wet-too*, Arakan; *Khwae-tawet*, *wet-tawet* (Mason).

Large Burman Sand-badger.‡ Inhabits Assam, Sylhet, and Arakan, and at least as far southward as the country bordering on the Sitang. An Arakan specimen is figured.§

63. A. TAXOIDES.

Arctonyx taxoides, Blyth, J. A. S. B. xxii. p. 591.

The small Burman Sand-badger is much smaller and better clad than the preceding, with the pig-like snout less developed. Both appear to have much the same geographic range.

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* The *Mustela nudipes*, F. Cuv., inhabits the mountains of the Malayan peninsula, Sumatra, and Java, and may therefore be looked for on those of the Tenasserim provinces.

† P. Z. S. 1865, p. 153.

‡ [In Jerdon's Mammals of India, the Hindustani Bhalu-soor, *i.e.* Bear-pig, is given as the native name of this animal; but this seems to be an error, for the usual term applied to it is Báli-soor, which means Sand-pig, which is in consonance with its known habits.—J.A.]

§ J. A. S. B. vol. vii. p. 735, pl.

Nearly allied is the *Mydaus meliceps*, Horsfield, of the higher mountains of the Malayan peninsula, Sumatra, and Java, which is likely also to inhabit those of the Tenasserim provinces. *M. leptorhynchus*,* A. M.-Edwards, is described from N. China.

Fam. Ursidæ.

Bears.

*64. HELARCTOS MALAYANUS (J. 43).

Ursus malayanus, Raffles, F. Cuv. Mamm. Lithog. iii. t. 58. *Wet-woon*, Arakan.

The Sun Bear. This is the only Bear which inhabits British Burma, where it is diffused from Arakan to Mergui, and thence southward throughout the Malayan peninsula, Sumatra, and Borneo ; the Bornean race, *U. euryspilus*, Horsfield,† differing but slightly. How far northward of Arakan its range of distribution may extend, I am unaware ; but *Ursus tibetanus*, the common Black Bear of the forest region of the Himalaya, is the only Bear as yet determined from the hill ranges bordering on Assam, and this I believe to be the *U. malayanus* apud Walker ;‡ the same animal occurring likewise in S. China, and in the islands of Hainan (?) and Formosa.§ In all probability the *H. malayanus* is generally diffused over the great Indo-Chinese peninsula, where it especially inhabits the precipitous limestone mountains, and is therefore difficult of access, from the tangled vegetation of the places to which it resorts. When brought up tame, it is an animal of gentle disposition, which will follow people about like a dog. I have seen one that suffered itself to be fondled by little children. "On one occasion," writes Mason, while "sleeping in a Karén field that had been recently harvested, I was disturbed all night by a number of them digging up the roots of the sugar-cane that had been left in the field. They will occasionally attack man when alone. On descending the Tenasserim a few years ago on rafts, the foremost raft passed over a rapid, and made short a turn into a little cove below, when a Bear from the shore made a plunge at the raft, and threw the two Karéns on it into the water. At this moment the other boats came in sight, and the Bear retreated. On another occasion I met with a Burman and a Bear that he had just shot, and the Burman assured me that he had shot the Bear in the very act of running upon him. And last year," continues Mason, "a Karén of my acquaintance in Tonghoo was attacked by one, overcome, and left by the Bear for dead.

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* Ann. Sci. Nat. ser. v. tom. viii. p. 374, and Ann. M. N. H. (4), t. ii. p. 230.

† Zool. Journ. vol. i. pl. 7.

‡ Calc. Journ. N. H. iii. p. 265.

§ P. Z. S. 1870, pp. 230, 621.

Though severely bitten, the man recovered." It is probable that such acts are prompted by maternal solicitude. The common Sloth Bear, or *Prochilus labiatus*, of India and Ceylon, is unknown to the eastern side of the Bay of Bengal.

Of the Infra-sub-order PINNIGRADA, or Seals, etc., there is no representative in inter-tropical seas.

Sub-order INSECTIVORA.

Fam. Tupaidæ.

Tupayes.

*65. TUPAIA PEGUANA (J. 88).

Tupaia peguana, Lesson, Bélanger's Voy., Atlas, t. 4; *Cladobates belangeri*, Wagner; *Herpestes* sp., Calc. Journ. N. H. ii. p. 458. *Tswai*, Arakan.

Common throughout British Burma, but hardly separable from *T. ferruginea*, Raffles, of the Malay countries, from which it seems to differ only in wanting the deep ferruginous tinge on the upper-parts, though even this is not quite absent in some specimens. Northward it extends to the Khásias, and even to the lower range of the Sikhim Himalaya.

According to Col. McMaster, "Burmese specimens differ somewhat from those of Arakan, in having the lower parts much darker, and with the pale central line narrower; in the Burmese examples, the whole chin, throat, and breast being buff." He also remarks that "the Burmese Tupaia is a harmless little animal: in the dry season living on trees, and in the Monsoon freely entering our houses, and in impudent familiarity taking the place held in India by the common Palm Squirrel; it is, however, probably from its rat-like head and thievish expression, very unpopular. I cannot," he adds, "endorse Jerdon's statement regarding their 'extraordinary agility,' for they did not to me appear to be nearly so active as Squirrels: at least, I remember one of my terriers on two occasions catching one, a feat which I have never seen any dog do with a Squirrel; cats of course often pounce upon them." Mason remarks that "one that made his home in a mango-tree near my house at Tonghoo made himself nearly as familiar as the cat. Sometimes I had to drive him off the bed, and he was very fond of putting his nose into the tea-cups immediately after breakfast, and acquired quite a taste both for tea and coffee. He lost his life at last, by incontinently walking into a rat-trap."

In the vicinity of Malacca the small *T. javanica*, Horsf.,* is associated with *T. ferruginea,* though unnoticed in Dr. Cantor's "Catalogue of the Mammalia of the Malayan Peninsula;" and perhaps the most extraordinary instance in the class of what has been termed "mimicry" occurs in a Squirrel, *Rhinosciurus tupaiades,* Gray, differing little, if at all from *Sciurus laticaudatus,* S. Müller, of Sumatra and Borneo, which inhabits the same district. Not only does this rodent resemble *T. ferruginea* in size and the texture and colouring of its fur, but the muzzle is singularly elongated, and there is even the pale shoulder-streak usual in the genus Tupaia. As a group of *Insectivora* the Tupayes would seem to "mock" the Squirrels; but the particular species of Squirrel referred to again specially simulates the *Tupaia ferruginea* of the same locality.

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* Zool. Res. in Java.

Another Malayan species of the order *Insectivora,* the *Gymnura rafflesii,* Vigors and Horsfield (*Viverra gymnura,* Raffles), occurs probably in Mergui, and is doubtfully mentioned as having been received from Arakan,* probably by mistake. This remarkable animal is not unlikely to be the "Opossum" of Colonel Low,† for it is difficult to imagine what other animal could be alluded to by that name.

Fam. Erinaceidæ.

66. Hylomys suillus.

H. peguensis, Blyth, J. A. S. B. xxviii. p. 294; Anderson, Trans. Z. S., vol. viii. p. 453.

Procured by Major Berdmore in the valley of the Sitang river. The Bornean specimens which I saw at Leyden appeared, without actual comparison, to be quite identical.

Fam. Soricidæ.

Sub-fam. Soricinæ (Shrews).

67. Pachyura indica (J. 69).

Sorex indicus, Geoff.; *S. cœrulescens,* Shaw; *Pachyura indica,* Anderson, P. Z. S. 1873, p. 231. *Kywet-suk* (Mason).

Indian Musk Shrew. The common pale grey Musk Shrew, vulgarly called the "Musk Rat" in India, occurs in the Tenasserim provinces, where, if I mistake not, it is the prevalent species.

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* Calc. Journ. N. H. ii. p. 147.

† J. R. A. S. iii. p. 50, and As. Res. xvii. p. 159.

68. P. MURINA (J. 70).

Sorex murinus, Lin.; *Pachyura murina*, L. Anderson, P. Z. S. 1873, p. 231.

Malayan Musk Shrew. "This," remarks Dr. Jerdon, "is the common large 'Musk Rat' of China, Burma, and the Malayan peninsula, extending into Lower Bengal and Southern India, especially the Malabar coast, where it is said to be the common species, the bite of which is considered venomous by the natives. The musky odour of this Shrew is much less powerful than in *S. cœrulescens*." I was never able to obtain a specimen of it in Lower Bengal, and am not wholly satisfied with regard to its alleged range in Burma.

69. P. GRIFFITHII.

Sorex griffithii, Horsfield, Catal.; Tomes, Ann. M. N. H., 2nd ser. vol. xxiv. p. 28; *P. griffithii*, Horsfd., Anderson, P. Z. S. 1873, p. 231.

The large Black Shrew. Inhabits the Khásia hills and those of Arakan; certainly not Afghánistân, as stated by Dr. Horsfield.*

70. P. NUDIPES.

Sorex nudipes, Blyth, J. A. S. B. xxiv. p. 34; *S. perroteti* apud Blyth, *ibid.* xvi. p. 1275. *P. nudipes*, Blyth, Anderson, P. Z. S. 1873, p. 231.

The Bare-footed Shrew. One of the group of minute Shrews, which appears to be of common occurrence in the Tenasserim provinces.

71. CROCIDURA FULIGINOSA.

Sorex fuliginosus, Blyth, J. A. S. B. vol. xxiv. p. 362; *Crocidura fuliginosa*, Anderson, P. Z. S. 1873, p. 231.

The Dusky Shrew. Procured by Major Berdmore in the Tenasserim Provinces.

Sub-fam. TALPINÆ (Moles).

72. TALPA LEUCURA.

Talpa leucura, Blyth, J. A. S. B. vol. xix. p. 215, and figure of skull.

The Sylhet Mole. Obtained by Major Berdmore in the valley of the Sitang.

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* The late Mr. S. Griffith collected both in the Khásia hills and in Afghánistân, and his specimens from those two very distinct localities became intermixed and confounded. Hence several Khásia species of mammalia, birds, and reptiles have been erroneously stated by Messrs. Horsfield and Moore to inhabit Afghánistân. *Vide* Ibis, 1872, p. 89.

Order CETACEA.

Fam. Delphinidæ.

Dolphins and Porpoises.

73. ORCELLA FLUMINALIS.

Orcella fluminalis, Anderson, P. Z. S. 1870, pp. 220, 544; 1871, pl. 43, fig. 2. *La-boing* (Mason).

The Irawádi Dolphin, inhabiting the deep channels of the river from 300 to 600 miles from the sea. Colour uniform dirty white.

Fam. Balænopteridæ.

Rorquals.

74. BALÆNOPTERA INDICA (J. 147).

Balænoptera indica, Blyth, J. A. S. B. vol. xxviii. p. 488.

Indian Rorqual. A specimen eighty-four feet in length was cast upon Juggoo or Amherst Islet, South of Ramri, and East of Cheduba, on the Arakan coast, in 1851: another was stranded on the Chittagong coast in 1842, said to have been ninety feet long and forty-two feet in circumference.* Whale Bay, in the Mergui archipelago, was so named by Captain R. Lloyd, "from the circumstance of its being resorted to by numerous Whales,"† it being the only part of the coast where he had seen them.

Order PROBOSCIDEA.

Fam. Elephantidæ.

75. ELEPHAS INDICUS (J. 211).

Elephas indicus, Linn.; *Hseu*, Mason; *Chang*, Siamese.

The Asiatic Elephant. The Elephant of Sumatra, and also that of Ceylon is considered by Professor H. Schlegel to be a peculiar species, *E. sumatranus*, Schlegel; but the late Dr. Falconer did not admit of the alleged distinctions, and a large living male Sumatran Elephant in the Zoological Gardens of Amsterdam, as also a half-grown one in that of Rotterdam, are certainly not to be distinguished by any external character from the ordinary Indian Elephant.

* Noted in J. A. S. B. xxi. p. 414, and xxviii. p. 482.

† *ibid.* vii. p. 1030, and map.

Order RODENTIA.

Fam. Sciuridæ.

Sub-fam. PTEROMYDINÆ (Flying-squirrels).

*76. PTEROMYS CINERACEUS.

Pteromys cineraceus, Blyth, J. A. S. B. xxviii. p. 276; *P. petaurista*, var. *cineraceus*, Bl., *ibid.* xvi. p. 864. *Shau-byau*, Arakan.

The Burmese Great Flying-squirrel inhabits Arakan, Pegu, Tenasserim provinces. It is a large species, very like *P. petaurista* of Central and Southern India and also Ceylon, but generally with whitish tail; one Tenasserim specimen, however, is unusually rufous, with the tail coloured uniformly with the upper-parts.

Many specimens of this animal require to be collected and compared together.

*77. SCIUROPTERUS PHAYREI.

Sciuropterus phayrei, Blyth, J. A. S. B. xxviii. p. 278; *S. sagitta*, apud Blyth, *ibid.* xxiv. p. 187.

Pegu, Tenasserim Provinces, and Cambodja, where it was obtained by Mouhot. It is akin to *S. horsfieldi*, Waterhouse (*S. aurantiacus*, Wagler), of the Malayan peninsula.

*78. S. SPADICEUS.

Sciuropterus spadiceus, Blyth, J. A. S. B. xvi. p. 867, pl. xxxvi. fig. 1. *Kywat-shoo-byan*, Arakan.

It inhabits Arakan, and is a diminutive species, of the same size as *S. volucella* of North America.

Sub-fam. SCIURINÆ (Squirrels).

*79. SCIURUS MACRUROIDES (J. 151).

Sciurus macruroides, Hodgson. *Leng-thet*, Arakan; *Sheu* (generic), Tenasserim, Mason.

The large Black Squirrel. This is the Himalayan *S. bicolor*, auct., with densely clad ear-conch, whereas Malayan specimens referred to the same have an almost nude ear-conch. There is a Tenasserim local race, with broad pale transverse band on the loins, forming a kind of cincture. The true *S. bicolor*, Sparrman, is now identified with the Javanese race, *S. hypoleucus*, Horsfield, which is not larger than the *S. macrourus* common in Ceylon. Examples from the Arakan mountains do not differ from those of the E. Himalaya and the hills bordering on the Bráhmáputra valley to the southward of it. The races brought together under the name *S. giganteus*, Tem., seem to be almost endless, but each of them is locally true to its particular type of colouring, within a moderate range of variation.

*80. S. FERRUGINEUS.

Sciurus ferrugineus, F. Cuv., Mamm. Lithog.; *S. keraudreni*, Is. Geoffroy, *vide* J. A. S. B. xxiv. p. 474, xxxi. p. 334; *S. siamensis*? Gray.

The Bay Squirrel. Occurs in the hilly regions of Arakan and Pegu.

81. S. CANICEPS.

Sciurus caniceps, Gray, Ann. M. N. H. 1842, p. 212; *S. chrysonotus*, Blyth, J. A. S. B. xvi. p. 873, xxiv. p. 474.

The Golden-backed Squirrel. It inhabits the Tenasserim provinces, but is commoner to the southward; it is certainly not found in Bhotan, or any part of India, as asserted by Dr. Gray.

82. S. ATRODORSALIS.

Sciurus atrodorsalis, Gray, Ann. M. N. H. 1842, p. 213; *vide* J. A. S. B. xxiv. p. 477, xxviii. p. 276; var. *S. hyperythrus*, Blyth, J. A. S. B. xxiv. p. 474, *vide* Beavan in P. Z. S. 1866, p. 428; *S. rufogaster*, Gray, same variety.

The Black-backed Squirrel. It is common in the hills about Maulmein, but is replaced on the opposite side of the Salween by the next species. It certainly does not occur in "India, Benáres," as asserted by Dr. Gray.

*83. S. PHAYREI.

Sciurus phayrei, Blyth, J. A. S. B. xxiv. p. 476, xxviii. p. 275; *S. pygerythrus*, var.? *ibid.* xvii. p. 345.

Phayre's Squirrel. It is common throughout the Province of Martaban, but does not inhabit Malabar, as has been stated.*

84. S. BLANFORDI.

Sciurus phayrei, Blyth, J. A. S. B. xxxi. p. 333.

It has been found in the vicinity of Ava, and the Shán hills, but not in "India," as asserted by Dr. Gray.

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* Ann. M. N. H. ser. 3, vol. xx. p. 277.

85. S. PICEUS.

Sciurus piceus, Peters, Proc. Zool. Soc. 1866, p. 429.

Tenasserim.

*86. S. LOKRIAH (J. 153).

Sciurus lokriah, Hodgson, J. A. S. B. 1836, p. 233; *S. subflaviventer*, M'Clelland, *vide* J. A. S. B. xxiv. p. 475.

A mountain race, inhabiting Nipâl, Sikhim, the Khásia hills, and those of Arakan.

*87. S. ASSAMENSIS.

Sciurus assamensis, M'Clelland, *vide* J. A. S. B. xxiv. p. 475; *S. blythii*, Tytler, Ann. M. N. H. 1854, p. 72.

A very abundant race, inhabiting the valley of the Bráhmáputra, with Eastern Bengal, Tippera, Chittagong, and Arakan.

*88. S. PYGERYTHRUS.

Sciurus pygerythrus, Is. Geoff., Zoologie Voy. de Belanger, *vide* J. A. S. B. xxiv. p. 475.

It inhabits Lower Pegu, and is common in the neighbourhood of Rangoon.

89. S. SLADENI.

Sciurus sladeni, Anderson, P. Z. S. 1871, p. 139.

Thizyain, in Upper Burma.

90. S. GORDONI.

Sciurus gordoni, Anderson, P. Z. S. 1871, p. 140.

Bhamo, Upper Burmah.

91. S. QUINQUESTRIATUS.

Sciurus quinquestriatus, Anderson, P. Z. S. 1871, p. 142.

A hill species, common at Ponsee, on the Kakhyen range of hills, east of Bhamo, at an elevation of from 2000 to 3000 feet.

92. S. BERDMOREI.

Sciurus berdmorei, Blyth, J. A. S. B. xviii. p. 603, xxviii. p. 418, xxxi. p. 334; *S. mouhoti*, Gray.

The Ground Squirrel. Tenasserim, Martaban, Mergui, Cambodja.

From what I have observed of this species I doubt if it ever ascends trees, as I never saw it retreat to them, but always to the cover of low herbage. It should, perhaps, more properly range as a species of *Tamias*.

93. S. BARBEI.

Sciurus barbei, Blyth, J. A. S. B. xvi. p. 875, pl. xxxvi. fig. 3, xviii. p. 603.

Tenasserim provinces, commoner to the southward, Siam, Cambodja? Hainan? S. China?

A Malacca specimen in the Leyden Museum is marked *Tamias leucotis*, Tem. It is closely allied to *S. m'clellandii* of the E. Himalaya and also of Formosa, but more brightly coloured, having four pale dorsal stripes about equally vivid, alternating with five black stripes. It is doubtless *S. m'clellandii* of Cambodja,* of Hainan,† and of China and Formosa;‡ but a Formosan specimen in the Leyden Museum represents the Himalayan race, *S. m'clellandii*. Mason remarks of *S. barbei* that it abounds in the provinces of Yé, Tavai, and Mergui.§

Fam. Muridæ.

Rats and Mice.

94. HAPALOMYS LONGICAUDATUS.

Hapalomys longicaudatus, Blyth, J. A. S. B. xxviii. p. 296.

A remarkable murine form, from Schwe Gyen in the valley of the Sitang or neighbouring hills, discovered by Major Berdmore.

95. NESOKIA INDICA (J. 172).

Nesokia indica, Gray; *Mus indicus*, Geoff. Probably *Yae-kwet* of Mason.

It has been obtained at Tonghoo by Mr. W. Theobald.‖ The occurrence of this common Indian field Rat in the open country of upper Pegu, together with a Hare akin to the *Lepus ruficaudatus* of the plains of Northern India, and of sundry birds identical with or akin to Indian species which are unknown in the broad belt of forest which fringes the coast of British Burma, indicates the probability of a closer connexion subsisting between the faunæ of the upper provinces of the two peninsulas than we as yet know of; our acquaintance with the fauna of Western Indo-China being chiefly confined to that of the great maritime belt of forest. The present species is, however, indicated by Mr. Swinhoe from Formosa.

* P. Z. S. 1861, p. 137. † *ibid.* 1870, p. 232. ‡ *ibid.* 1870, p. 634.

§ In addition to all of the above, I have seen an undescribed species of medium size from Tonghoo.

‖ P. A. S. B. 1866, p. 240.

96. MUS BANDICOTA (J. 174).

Mus bandicota, Bechstein. *Myac-kywet* (Mason).

This species I give on the authority of Mason, which I accept the more readily as it is known to occur in Siam and the Malayan peninsula and islands; also in Formosa, where Mr. Swinhoe thinks that it was probably introduced when the Dutch were in possession, A.D. 1630.*

*97. M. DECUMANUS (J. 176).

Mus decumanus, Pallas, Glires, 91.

The common Brown Rat. I observed this pest to be very numerous and troublesome at Akyab, but saw no traces of it at Rangoon or Maulmein, nor further southward; but wherever there is European shipping, it will sooner or later find its way and establish itself permanently.

*98. M. ROBUSTULUS.

Mus robustulus, Blyth, J. A. S. B. xxviii. p. 294; Theobald, P. A. S. B. 1866, p. 240; *M. berdmorei?* Blyth, J. A. S. B. xx. p. 173; *M. rufescens*, Gray, var. ?

Common Rat of Rangoon and Maulmein, also of Mergui. Requires to be critically examined in the fresh state.

Under the heading of "White-bellied Rat," Mason remarks that "the Rats are scarcely second to the Termites for the mischief they perpetrate. They burrow in the gardens and destroy the sweet potatoes; they make their nests in the roofs by day and visit our houses and larders by night. They will eat into teak drawers, boxes, and book-cases, and can go up and down anything but glass. In the province of Tonghoo they sometimes appear in immense numbers before harvest and devour the paddy like locusts. In both 1857 and 1858 the Karens on the mountains west of the city lost all their crops from this pest; and it is said that they are equally destructive occasionally in the eastern districts, but have not appeared for several years. The natives say it is the same Rat as the one that frequents houses."

Again, he remarks that Mr. Cross, when on the Tenasserim river a few months ago (in 1858?), wrote—"The people, in common with all who grow the hill paddy, over an extent of country more than fifty miles square, are suffering a famine of rice. This is occasioned by swarms of Rats, which devoured the paddy, or rather cut down the stalks, just as the ears began to fill. The Rats twice visited some parts of this territory during the season, so that scarcely a stalk of rice escaped them. I met with two of these animals, swimming the Tenasserim where it is more than a quarter of a mile wide, and succeeded in capturing one. The animal is about five inches from the nose to the end" (base?) "of the tail, of a slim and nimble appearance, the belly white, and the rest a mouse colour. During the rains, when the river is much wider and more rapid, these Rats crossed in columns, as the people say, so abundantly that a boat, in passing through, caught bushels of them. They only make their appearance at long intervals, like the locusts of other places. It is said to be from twenty to thirty years since they visited the country before, to any great extent."

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* P. Z. S. 1870, p. 635.

99. M. CAUDATIOR (J. 183).

Mus caudatior, Hodgson, Horsf. Cat. Mamm. India House Mus., p. 144; var. *M. cinnamomeus*, Blyth, J. A. S. B. xxviii. p. 294.

Lower Pegu and Martaban.

It differs only from the Nipâlese animal of Mr. Hodgson by having the upper-parts entirely of a bright cinnamon colour.

*100. M. CONCOLOR.

Mus concolor, Blyth, J. A. S. B. xxviii. p. 295, the young; *ibid.* M. —— ? p. 294, the adult.

Upper and Lower Burma; Malayan peninsula.

It requires to be critically examined in the fresh state.

101. M. PEGUENSIS.

Mus peguensis, Blyth, J. A. S. B. xxviii. p. 295.

Schwe Gyen, valley of the Sitang river.

A particularly well-distinguished species, of which there is an unmistakeable specimen marked from the Philippines in the Derby Museum of Liverpool. Mason suspects this to be the field Mouse of the Karen districts.

102. M. NITIDULUS.

Mus nitidulus, Blyth, J. A. S. B. xxviii. p. 294.

Valley of the Sitang. Mason notices a "very familiar little Mouse in the houses at Tounghoo," which he never saw in the Tenasserim provinces; and he inclines to refer it to the present species.

103. M. BEAVANI.

Mus beavani, Peters, P. Z. S. 1866, p. 559.

Valley of the Salween.

104. M. BADIUS.

Mus badius, Blyth, J. A. S. B. xxviii. p. 295.

Valley of the Sitang.

It is allied to *M. oleraceus* of India, the type of Dr. Gray's genus *Vandeleuria.*

Other species of Rat and Mouse doubtless remain to be discovered, and it is desirable that they should be minutely described when fresh. Of the former, a very likely species to occur is the *M. andamanensis*, Blyth,* a subspinous Rat which proves to be the *M. setifer* apud Cantor,† but not *M. setifer* of Horsfield, which is identical with *M. bandicota.* Three well-distinguished species of Mice from the Khásia hills are described as *M. cunicularis*, *M. erythrotis*, and *M. gliroides*, Blyth.‡ According to Mason, "there is a Water Rat throughout the country which burrows in the banks of streams, and takes to the water when pursued."

105. RHIZOMYS SUMATRENSIS.

Mus sumatrensis, Raffles; *R. cinereus*, M'Clelland, Calc. Journ. N. H. ii. p. 456, and pl. xiv. not good; *Spalax javanus* et *Nyctocleptes dekan*, Temminck. *Pwai*, Tenasserim, Mason.

Tenasserim provinces; Malayan peninsula and islands. Arakan? §

*106. R. CASTANEUS.

Rhizomys castaneus, Blyth, J. A. S. B. xii. p. 1007, xxxvi. p. 198; *M. badius* apud Blyth.

Arakan, Pegu.

Barely separable from *M. badius* (J. 201), from which it seems to differ only in its much brighter colouring.

107. R. PRUINOSUS.

Rhizomys pruinosus, Blyth, J. A. S. B. xx. p. 509.

Originally described from the Khásias, and obtained by Dr. Anderson in the vicinity of Bhamo.||

108. R. MINOR (J. 201).

Rhizomys minor, Gray, Ann. M. N. H. x. p. 226; Horsfield's Catal. No. 228.

Allied to the two preceding species, but of a dusky brown colour, with white muzzle and around the eye, and pale naked feet. I obtained a living

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* J. A. S. B. xxix. p. 103.

† *ibid.* xv. p. 254.

‡ *ibid.* xxiv. p. 721.

§ Calc. Journ. N. H. ii. p. 297.

|| Journ. of Exped. p. 256.

specimen of this animal when in Upper Martaban, but the skin of it got spoiled; and I at once recognized the same species in two drawings of it as obtained in Siam by Capt. Finlayson. It has likewise been obtained at Yanangeen, on the Irawadi. It is even included, together with *R. sinensis*, Gray, in Mr. H. Walker's "Catalogue of the Mammalia of Assam" (*ibid.* iii. p. 267); but both species are there in need of verification. Mason remarks that "this animal, which burrows under old bamboo roots, resembles," to some extent, "a Marmot more than a Rat, yet it has much of the Rat in its habits. I one night caught a specimen gnawing a coco-nut, while camping out in the jungles." According to Mason the Byhais call the Bamboo Rat *Khai*, and they say that there is the Bamboo Khai, the Reed Khai, the Maranta Khai, and the *Wie*, a very small species of the same tribe." In *R. sumatrensis* the fur is thin and bristly. The other three here given are smaller animals, with shorter tail and the fur soft and dense.

Fam. Hystricidæ.

Porcupines.

*109. HYSTRIX BENGALENSIS? (J. 205).

Hystrix bengalensis, Blyth; *H. malabarica*, Sclater, P. Z. S. 1865, p. 353, pl. xvi. *Phyoo*, Tenasserim (Mason).

The Porcupine of Arakan appears to be the same as that of Assam and of Eastern and Lower Bengal, the skull of which is not tumid, as in *H. leucura*, Sykes. Moreover, I cannot perceive (to judge from the stuffed specimen in the British Museum), that the adult *H. malabarica*, Day, differs from it in any respect. I have only seen small Arakan specimens, however, and will not be too confident that I am right in referring them to the present species.

110. H. LONGICAUDA? (J. 206).

Hystrix longicauda, Marsden; *Acantheon javanicum*, F. Cuv., Mém. Mus. ix. t. 1, fig. 3, 4.

I also give this Malayan species with hesitation, though I believe it to be that which inhabits the Tenasserim provinces.

There is also *H. alopæus*, Hodgson,* from Nipâl, which seems to be one and the same with *H. grotei*, Gray,† from Malacca, remarkable for having but one black ring on its white quills. The skins of Porcupines when dried, and afterwards relaxed and set up in museums, are usually in wretched condition, and when of young or half-grown specimens only, some of the supposed species of them (if they really be species) are difficult of discrimination. These animals require to be compared together when alive, adult, and in good condition, in order to be properly understood.

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* J. A. S. B. 1847, p. 772, t. 32.

† [P. Z. S. 1866, p. 306, pl. xxxi. This species is referred by Mr. Sclater to *H. longicauda*, Marsden, P. Z. S. 1871, p. 234.—Ed.]

111. ATHERURA FASCICULATA.

Hystrix fasciculata, Shaw; Buffon, Supp. tom. vii. p. 303, t. 77.

This animal inhabits the Tippera hills, Siam, and the Malayan peninsula, and therefore probably the Indo-Chinese countries generally.

A living Malayan example in the London Zoological Gardens could not be distinguished from its African companions referred to *A. africana*, Gray; but an example from Assam is much paler in colour and more freckled, as was one which I possessed from Tippera. This northern race is well figured in Hardwicke's "Illustrations of Indian Zoology," copied from one of Buchanan Hamilton's drawings.

Fam. Leporidæ.

Hares.

112. LEPUS PEGUENSIS.

Lepus peguensis, Blyth, Journ. As. Soc. B. xxiv. p. 471. *Yung* (Mason).

Inhabits the open country within or beyond the range of forests. Crawfurd long ago remarked that "the Hare is unknown in Pegu, but that it makes its appearance in the hills before the disemboguement of the Irawádi."

Order UNGULATA.

Fam. Suidæ.

113. SUS CRISTATUS (J. 215).

Sus cristatus, Wagner, Münch. gel. Anzeig. ix. p. 535, 1839; *S. indicus*, Gray. *Tau-wet* (Mason).

A boar which I examined at Akyab was of the ordinary Bengal race, but the Tenasserim wild boars are considerably smaller, the skulls of adults being one-fifth less in linear dimensions, though otherwise similar. One such was given to me in Calcutta as that of a tusked sow, and I afterwards found that the Tenasserim boar-skulls differed in no respect. The race requires to be critically examined. Mason remarks that the Tenasserim wild Hogs are of "a small blackish species, exceedingly numerous," and that they are very destructive to the Karen paddy-fields. According to Colonel McMaster, although some heads of Tenasserim wild boars, which I showed him in Calcutta, "were certainly smaller than those of India," the animals which he had seen in Upper Pegu appeared to him to be about the same size as those which he had seen in former hunting days in India. That Pigs are inimical to snakes is well known; but Mason mentions that he has seen the head of a Python "that was killed by a drove of hogs, whose whole length measured eighteen feet." Whether wild or tame does not matter, but that author repeatedly uses the word "drove" in connexion with wild animals, even rats. It is a remarkable fact (if quite trustworthy) that a number of Hogs should thus combine to destroy a large Python.

Fam. Tragulidæ.

Chevrotains.

114. TRAGULUS KANCHIL.

Moschus kanchil, Raffles. *Yung*[*] (Mason).

This small Chevrotain, or "Mouse-Deer," with a medial black stripe on the chest, is common in the southern Tenasserim provinces, and extends throughout the Malayan peninsula, Sumatra, and Borneo; but in Java it appears to be replaced by the equally diminutive *T. javanicus* (*T. pelandoc*, Blyth).[†] In Cambodja and Cochin-China there is a race which chiefly differs from *T. kanchil* in wanting the medial dark stripe on the chest (*T. affinis*, Gray);[‡] and the island of Hainan, it is remarked by Mr. Swinhoe, "produces a Mouse Deer, which I have made out to be *Tragulus meminna*.[§] The latter can hardly be, for that species (*Meminna indica*) is elsewhere unknown eastward of the Bay of Bengal. There is, again, a Chevrotain much larger than the *T. kanchil*, which seems to be generally diffused over the Malay countries, the *T. napu*, F. Cuvier, which is not unlikely to occur in South Tenasserim; and what are probably local races of *T. napu* have been described as *T. stanleyanus* and *T. fuscatus*, the pyrrhous *T. stanleyanus* having been erroneously supposed to inhabit Ceylon. *Meminna indica* is the only species of Chevrotain that inhabits Ceylon and the Indian peninsula; and throughout the Malay countries there are the larger *T. napu* and its subordinate races, and—except in Java—the smaller *T. kanchil* (to which *T. affinis* should perhaps be subordinated), with *T. javanicus* in Java only. The *T. kanchil* is the only one, so far as hitherto ascertained, that ranges northward into British Burma, and in the Malayan peninsula it is much more abundant than the *T. napu*.

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[*] The same name which he assigns to *Lepus peguensis*.

[†] J. A. S. B. xxvii, p. 277.

[‡] P. Z. S. 1861, p. 138.

[§] *ibid.* 1870, p. 644.

Fam. Cervidæ.

Deer.

*115. Rusa aristotelis (J. 220).

Cervus aristotelis, Cuv. *Schap.*

Common and generally diffused through the great forests. The Sâmur Deer of Burma appeared to me to be rather small, and I have never seen a fine pair of horns of this species from the countries eastward of the Bay of Bengal.

*116. Hyelaphus porcinus (J. 222).

Cervus porcinus, Zimm.

The *Drai*, or Hog Deer, is very abundant. Mason observes, however, that this species seems to be confined to the plains. "It abounds," he states, "north and east of Maulmein, and on the large islands south of Tavai; but it is not found north of the station, nor eastward among the hills, nor in the valley of the Tenasserim, but is found again on the plains of the Sitang." Some individuals (especially does) are more or less distinctly "menilled" or spotted when in their summer coat, which has given rise to reports of the Indian Spotted Deer (*Axis maculatus*) having been observed in Burma. The so-called Hog Deer of Malabar is the *Meminna indica*; but, whether or not introduced (as is most probable), the true Hog-Deer inhabits a part of the west and south-west of Ceylon. The Indian Spotted Deer has been introduced into Province Wellesley and has there multiplied, as noticed by Cantor; and according to Raffles also in Sumatra, and there by native agency.

*117. Panolia eldi.

Cervus eldi, Guthrie, Calc. Journ. N. H. ii. p. 415; horns figured, *ibid.* i. pl. xii, ii. pl. xii; *C.* (*Rusa*) *frontalis*, M'Clelland, *ibid.* iii. p. 401, pl. xiii, xiv; *C. lyratus*, Schinz; *C. dimorphe*, Hodgson; *Panolia acuticornis*, Gray. *T'hámine* of Burmese, *Sungrai* of Manipur.

It inhabits Pegu, and thence northward to the valley of Manipur, and southward to Mergui and the adjacent northern part of the Malayan peninsula. In Cambodja and the island of Hainan it is replaced by a nearly allied race, *P. smithii*,* subsequently *C. platyceros* of Dr. Gray;† and interposed between the two races of *Panolia* there would appear to occur the fine

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* *Cervus smithii*, Gray, P. Z. S. 1837, p. 45.

† *vide* P. Z. S. 1867, p. 841, figs. 22 and 23.

Rucervus schomburgki, Blyth, which is a Siamese representative of the Indian *R. duvaucelli*, and doubtless similar in its habits. For illustrations of the horns of all four species, *vide* Proc. Zool. Soc. 1867, p. 835, figs. 1–23. The earliest figure of the horns of *P. eldi* is given, with a portrait of its discoverer, Lieut. Eld, in the Bengal Sporting Magazine.*

This remarkable Deer is a highly gregarious species, resorting to openings in the forest, like the Indian Bárá-sing'ha, *Rucervus duvaucelli*.†

*118. CERVULUS AUREUS (J. 223).

Styloceras aureus, H. Smith, G.A.K. iv. 148, t. v. 805.

Gee, or Barking Deer.

The diminutive Deer of this form, commonly known as Muntjacs, are generally distributed over the hill forests of north-east Asia and its islands; but examination of a series of skulls from different localities in the Museum of the London Royal College of Surgeons inclines me to think that the various species of them have not been satisfactorily made out. That of Java, *C. vaginalis*, Boddaërt, is one of the most distinct, and has considerably larger horns than any of the others; again, the small *C. reevesii*, Ogilby, of China is well distinguished; and Dr. Gray characterizes one from Cambodja as *C. cambojensis*,‡ which he has since identified with *Rucervus schomburgki*! The Burmese species differs in no respect that I am aware of from the ordinary Indian one, and again from that inhabiting the Malayan peninsula; but the Sumatran would appear to be somewhat different. It is the most numerous and universally diffused of all the Deer of Burma. More extensive materials for comparison of the different races than are at present available are needed for a final determination of the species of Muntjac Deer.§

Fam. Capridæ.

Goats, Sheep, and Antelopes in part.

*119. CAPRICORNIS SUMATRENSIS.

Antilope sumatrensis, Shaw; Marsden, *Hist. Sumatra, Atlas*, pl. xiv; F. Cuvier, Mamm. Lithog.; *A. interscapularis*, Lichtenstein; *C. rubida*, Blyth; *C. swinhoei*, Gray, P. Z. S. 1862, p. 263, pl. xxxv; skull with horns from Arakan, figured Calc. Journ. N. H. i. pl. xii. *Tan-kseik*, Mason.

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* l.c. vol. xiv. 1839, p. 346.

† *vide* Lieut. Eld, *loc. cit.*, and especially Lieut. Beavan, in J. A. S. B. xxxvi. p. 175 *et seq.*, and P. Z. S. 1867, p. 759.

‡ P. Z. S. 1861, p. 138.

§ [Sir V. Brooke has since arranged the known species, P. Z. S. 1874, p. 33.—Ed.]

This species appears to be distributed from Arakan through Pegu to the extremity of the Malayan peninsula, and to occur in Siam and Formosa, and also in Sumatra.

This species varies much in colour, from red to black, and the black sometimes with a white nape, or the hairs of the nape may be white at the base only. Two flat skins from Arakan are of a pale red-brown colour; with black dorsal list, and quite resemble the figure of one from Formosa, which is styled *C. swinhoei.* The late Lieut. Beavan, again, described a female shot on "the grass and bamboo-covered sides of Zwagaben" mountain, near Maulmein, as being of a mingled black and ferruginous colour,* and he mentions that the animal had been seen at Thayet Myo in Pegu. Mason also states that it is common on the mountains of Tonghoo, and Cantor obtained it from those of the Malayan peninsula. The "wild goat" mentioned by Crawfurd, as stated by the Siamese "to be found in some of the mountains of their country, and to be shot for their horns, which are prized by the Chinese for certain alleged restorative properties," can hardly be any other. On comparison of skulls from Sumatra, Arakan, and Mergui, I could detect no distinguishing character, and they differ little from those of *C. bubalina* of the forest region of the Himalaya, except in being considerably smaller. The genus is a very peculiar one, by no means so nearly related to the Goats and Gorals as is generally supposed, but examples of it should be studied in captivity before it can be thoroughly understood, and the skeleton of this form is a desideratum in European collections.

Fam. Bovidæ.

The Bovine family.

*120. Bos gaurus (J. 238).

Bos gaurus, C. H. Smith. Fine skull figured in J. A. S. B. vi. p. 224; another *ibid.* x. 470. *Pyoung.*

The Gaur, or "Bison" of Indian sportsmen, is diffused in all suitable localities throughout British Burma, and its range extends southward to the straits of Singapore, but not to any of the islands. Nowhere does this grand species attain a finer development than in Burma, and the horns are mostly short and thick, and very massive, as compared with those of Indian Gaurs, though the distinction is not constant on either side of the Bay of Bengal. In the Malayan peninsula, where it is known as the *Salandang,* this animal would appear to be becoming extremely rare, at least to the southward; and we need information respecting its distribution in other parts of Indo-China. I have seen a characteristic skull from Johore, and once possessed a living calf, which was sent, together with a Malayan Tapir, from Singapore.

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* P. Z. S. 1866, p. 4.

121. B. FRONTALIS.

Bos frontalis, Lambert, Lin. Trans. vii. p. 57, pl. 4; *B. gavæus*, Colebrooke; P. Z. S. 1866, pl. 1, young bull; Hodgson, J. A. S. B. x. p. 470, skull, fig. 1.

The Gayal or *Mit'hun.*

In the domestic state only, the range of this fine species extends southward to the hills bordering on the Koladyne river, which flows into Akyab harbour from the north. In the hilly parts of Tippera and Chittagong it exists in the wild state. In the fully mature bull the horns are longer and the dewlap is considerably more developed than is represented in the figure cited.

*122. B. SONDAICUS.

Bos sondaicus, S. Müller; *B. bentinger*, Temminck. *Tsoing* of Burmese.

The Banting inhabits Pegu, the Tenasserim provinces and Malayan peninsula, Sumatra, Borneo, and Java; being domesticated in the island of Báli.

The hybrid with the Javan humped cow constitutes the *B. leucoprymnus* of Quoy and Gaymard, as the hybrid Gayal constitutes the *P. sylhetanus* of F. Cuvier. The Banting has bred in the Zoological Garden of Amsterdam, where I have seen bull, cow, and calf in fine condition. The bull, more especially, has an indication of a hump, which, however, must be specially looked for to be noticed; and he has a broad and massive neck like the Gaur, but no raised spinal ridge, nor has either of these species a deep dewlap like the Gayal. The cow is much slighter in build, with small horns that incline backwards; and she retains her bright chestnut colour permanently, while the bulls become black as they attain maturity, excepting always the white "stockings," and also the white patch on each buttock, which is characteristic of the species. In the old bull the cuticle between the bases of the horns becomes enormously thickened, corneous and rugged, and this begins to show before the coat has commenced to change colour, as may be seen in a stuffed specimen in the British Museum, which is that of an animal procured in Pegu by the author of this paper, and which lived for some time in the London Zoological Gardens. How far to the eastward the range of this animal extends in the Indo-Chinese countries, remains to be ascertained; but I have reason to believe that two other species of *Bos* there remain to be described, one of which is domesticated in Siam and the other in Cochin China.

123. Bubalus arni (J. 239).

Bos arni, Shaw.

The Indian Buffalo exists wild, whether or not indigenously so, and everywhere in the domestic state; and, as the calves obtain their full supply of milk, the tame Buffaloes in Burma assume their full development, and are not stunted in their growth, as in most parts of India. The Rev. F. Mason remarks that "there are great numbers of wild Buffaloes in the jungles of the South, which are supposed by the natives to be indigenous; but they are more probably of the domestic race that have run wild, like the wild Horses of America." The Indian Buffalo now abounds in a state of wildness in the north of Australia, where they have spread from Port Essington, and there are many in the delta of the Nile, where also they must needs have descended from domestic stock.

From Crawfurd's description of the animal it would seem that *Bos sondaicus* is domesticated in Siam. He, however, styles it *B. taurus*? "The *Bos taurus*," he remarks, "is found wild in the Siamese forests, and exists very generally in the domestic state, particularly in the northern provinces. Those we saw about the capital were short limbed, compactly made, and frequently without horns. They were generally of a red or a dark-brown colour, and never of the white or grey, so prevalent amongst the cattle of Hindustan. They also want the hump over the shoulders, which characterizes the latter. They are used only in agricultural labour, for their milk is too trifling in quantity to be useful, and the slaughter of them, publicly at least, is forbidden even to strangers. When, during our stay, we wanted beef for our table, our servants were obliged to go three or four miles out of town, and to slaughter the animals at night. The wild cattle, for the protection of religion does not extend to them, are shot by professed huntsmen on account of their hides, horns, bones, and flesh, which last, after being converted into jerk beef, forms an article of commerce to China."*

Fam. Tapiridæ.

Tapirs.

124. Tapirus malayanus.

Tapirus malayanus, Raffles, F. Cuvier, Mamm. Lithog. i. p. 87. *Ta-ra-shu*, Mason.

The Malayan Tapir inhabits the Tenasserim provinces as high as the 15th deg. north lat.; also Lower Siam, the Malayan peninsula, Sumatra, and Borneo; if not likewise the southern provinces of China, where the species is not likely to be a different one. "Though seen so rarely," remarks Mason, "the Tapir is by no means uncommon in the interior of Tavoy and Mergui provinces; I have frequently come upon its recent footmarks, but it avoids the inhabited parts of the country. It has never been heard of north of the valley of the Tavoy river."

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* Embassy to Siam and Cochin China, ii. p. 192.

Fam. Rhinoceratidæ.

Rhinoceroses.

125. RHINOCEROS SONDAICUS (J. 213).

Rhinoceros sondaicus, Cuvier; Horsfield, Zool. Res. in Java; S. Müller, Verhand. t. 33; *R. nasalis*, *R. stenorhynchus*, et *R. floweri*, Gray, apud Busk, P. Z. S. 1869, p. 416. *Khyen-hseu*, Mason.

The Lesser One-horned Rhinoceros. So far as I have been able to satisfy myself, this is the only single-horned Rhinoceros of the Indo-Chinese and Malayan countries, its range of distribution extending northward to the Gáro hills, where it co-exists with the large *R. indicus*, and to eastern and Lower Bengal. It would appear to be the only Rhinoceros that inhabits the Sundarbáns, occurring within a few miles of Calcutta; and yet I know of but one instance of its having been brought to Europe alive,* and then it was not recognized as differing from *R. indicus*, which latter is not uncommonly brought down the Bráhmáputra from Assam, and sent to Europe from Calcutta. There is reason, also, to believe that *R. sondaicus* is the species which was formerly hunted by the Moghul Emperor Báber on the banks of the Indus. Southward it inhabits the Malayan peninsula, Sumatra, Java, and Borneo (? *vide* Busk, *loc. cit.*). It is about a third smaller than *R. indicus*, from which it is readily distinguished by having the tubercles of the hide uniformly of the same small size, and also by having a fold or plait of the skin crossing the nape, in addition to that behind the shoulder-blades. In *R. indicus* the corresponding fold does not thus meet its opposite, but curves backward to join—or nearly so in some individuals—the one posterior to the shoulders. A fine living male, before referred to, was exhibited for some years about Great Britain, and was finally deposited in the Liverpool Zoological Gardens, where it died, and its preserved skeleton is now in the anatomical museum of Guy's Hospital, Southwark. Two passable figures of it from life are given in the "Naturalists' Library," where it is mistaken for the huge *R. indicus*.

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* [Since Mr. Blyth wrote this paper, another example of this species is now alive in the Zoological Society's Garden.—J.A.]

Rhinoceros sondaicus is found at all elevations, as remarked of it by Dr. Horsfield, in Java; and from the mountains of Palouk, thirty miles north of Mergui, a writer quoted by the Rev. F. Mason observes—"We were on the summit of the highest range of mountains in the provinces. The tall timber trees at the first ascent were dwindled into a thick growth of stunted bushes, unmixed with a single shrub. The path, which was narrow and steep, had reached a level spot, that had been in the rains the wallowing place of a rhinoceros; for it has the habit of wallowing in the mire no less than the hog and the buffalo." The Sumatra Rhinoceros was also tracked by General Fytche to an altitude of about 4000 feet, when he obtained a close view of the animal with two finely developed horns.* Crawfurd was assured at Bangkok that a thousand Rhinoceros horns were thence annually exported to China.

According to Helfer, the *R. indicus*, in addition to *R. sondaicus*, inhabits the northern portion of the Tenasserim provinces; and Mason asserts that a single-horned Rhinoceros from the Arakan jungles was purchased by the London Zoological Society, and lived for many years in the Regent's Park, the species in that case being unquestionably *R. indicus.* Again, according to a writer in the Oriental Sporting Magazine,† both species of one-horned Rhinoceros occur in Burma, and he cites, as his authority for the statement, a writer in the first series of the same periodical (vol. ii. p. 35), mentioning that his said authority appears to be "a thorough sportsman and no mean naturalist." I nevertheless hesitate, upon present evidence, to admit the Great Indian Rhinoceros into the list of Burmese animals.

126. CERATORHINUS CROSSII?

Rhinoceros crossii, Gray, P. Z. S. 1854, p. 250, with figure of anterior horn, 32 in. in length over the curvature, and 17 in. in span from base to tip; *R. lasiotis*, Sclater.

Ear-fringed Rhinoceros. In the Rhinoceroses of this type the hide is comparatively thin, and is not tessellated or tuberculated, nor does it form a "coat of mail," as in the preceding; but there is one great groove (rather than fold or plait) behind the shoulder-blades, and a less conspicuous crease on the flank, which does not extend upwards to cross the loins, as represented in F. Cuvier's figure; and there are also slight folds on the neck and at base of the limbs; the skin being moreover hairy throughout. There is also a second horn placed at some distance behind the nasal one.

Until recently, the existence of more than one species was unsuspected. In 1868, a young female was captured in the province of Chittagong, and on its arrival in the London Zoological Gardens, early in 1872, was believed to represent the *Rhinoceros sumatrensis* of Bell and Raffles; but soon afterwards another two-horned Rhinoceros was received at the same establishment from Malacca, obviously of a different species, which proved to be the veritable *R. sumatrensis.* Since its arrival, it has now (1873) considerably increased in size, and it probably is not yet quite full grown. As compared with *C. sumatrensis,* it is a considerably larger animal, with much smoother skin, of a pale clay-colour, covered with longer and less bristly hair, the latter of a light brown colour, as seen in the mass. The ears are placed much further apart at the base, and are not lined with hair as in the other, but are conspicuously fringed with long hair; and the tail is much shorter and largely tufted at the end. The horns are worn away, but if the species be truly assigned to *C. crossii,* the anterior would grow very long and curve to a remarkable extent backwards, while the posterior horn would probably be short. A second specimen of an anterior horn, almost as fine as the one first described, has recently turned up among the stores of the British Museum; and I found a smaller anterior horn of *R. crossii* in the Museum of the London Royal College of Surgeons, confirmatory of its peculiar shape. In this group the horns are remarkably slender except at the base, and of much more compact texture than in other Rhinoceros horns. I have reason to believe that this is the two-horned species which inhabits the Arakan hills, those of northern Burma, and which extends rarely into Assam; and I think it highly probable that the skull figured in Journ. As. Soc. B. xxxi. p. 156, pl. iii. f. 1, represents that of *C. crossii* (seu *R. lasiotis*), in which case the range of the species would extend into the Tenasserim provinces. A detailed notice of the individual sent to London has been given by Dr. Anderson.*

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* J. A. S. B. xxxi. p. 157.

† July, 1832, p. 301.

127. C. SUMATRENSIS.

Rhinoceros sumatrensis, Bell, Phil. Tr. 1793, p. 3, pl. 2, 3, 4; *R. javanus,* F. Cuv. Mamm. Lithog., very young; *C. blythii,* Gray, Ann. M. N. H. (4), vol. xi. p. 360. *Kyen-shan,* Mason.

The Sumatran Rhinoceros is much smaller than the preceding species, with a harsh and rugose skin, which is black, and clad with bristly black hairs; the ears less widely separated at base, and filled internally with black hairs; the muzzle anterior to the nasal horn much broader; and the tail conspicuously longer, tapering, and not tufted at the end. Horns attaining considerable length, and curving but slightly backwards, as represented in Journ. As. Soc. B. xxxi. p. 156, pl. iv. f. 1.

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* P. Z. S. 187~~1~~2, p. 129.

This is the ordinary two-horned Rhinoceros of the Tenasserim provinces, extending into Siam, and southward throughout the Malayan peninsula and Sumatra; but in Borneo there would appear to be a still smaller species, which is referred to the same by Professor H. Schlegel. How far northward its range extends has not been ascertained, but I suspect that it does not occur in Arakan. A Rhinoceros of some kind inhabits the province of Quang-si, in China, in lat. 15 deg. N., as noticed by Du Halde. In general, this is an exceedingly shy and timid animal, but it has been known to attack the night-fires of travellers, as happened once to Professor Oldham. In this case the animal was shot, and its skull is now in the Museum of Trinity College, Dublin, where I have verified it as appertaining to the present species. For remarks on this and the preceding species, *vide* Ann. M. N. H. (4), vol. x. (1872), p. 399. Lieutenant Newbold noticed the existence of the "Badok, or Sumatran Rhinoceros" in the Malayan peninsula in 1838.*

Order SYRENIA.

Fam. Halicoridæ.

128. HALICORE DUGONG (240).

Trichechus dugong, Erxleben, F. Cuvier, Mamm. Lithog. ii. 120; Zool. Aristolabe, Atlas, t. 27.

The Malayan Dugong. Mason records that the existence of this animal in the Mergui archipelago was brought to his notice by the late Rev. S. Benjamin in 1853. It is occasionally obtained by the Andaman Islanders. Finlayson strangely asserts that in this animal "a single spiraculum opens near the top of the head."

Fam. Manidæ.

Pangolins.

*129. PANGOLINUS LEUCURUS.

Manis lucurus, Blyth, J. A. S. B. xi. p. 454; xvi. p. 1274. *Theu-khwæ-ghyat*, Mason.

Burmese Pangolin. Ranges from Arakan to Mergui, and is probably the species "closely allied to *javanicus*" observed by Dr. Anderson near Bhamo. From Malacca I have only seen the *P. javanicus*, Desmarest, and it is probable that *P. auritus*, Hodgson, 1836 (*Manis dalmanni*, Sundevall, 1842, *M. multiscutata*, Gray, 1843), occurs to the northward. From Cambodja Dr. Gray gives *P. pentadactyla* (*Pangolinus typus*).

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* Madras Journ. Lit. Sc. vii. p. 70.

Province SAUROPSIDA.

Class AVES.

Sub-class Carinatæ.

Order *PREHENSORES.*

Fam. Psittacidæ.

Parrots.

1. PALÆORNIS ALEXANDRI (J. 147).

P. eupatrius, L., adopted by Dr. Finsch, *Die Papageien*, tom. ii. p. 11. *Kyai-phoung-ka.*

A mountain species in British Burma, chiefly or wholly confined to the loftier elevations. Mason remarks that he never observed it in the provinces of Tavoy and Mergui. Schomburgk, however, notes it from Siam.*

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* It is probable that more species of PALÆORNIS remain to be discovered in the Indo-Chinese peninsula. Some of them are very local, as P. COLUMBOIDES (J. 150), which is confined to the mountains of S. India, as P. CALTHROPÆ is to those of Ceylon. P. ERYTHROGENYS, nobis (*P. nicobaricus*, Gould, *B. As.* pt. ix. pl. 13), is known only from the Andaman and Nicobar Islands. P. CANICEPS, nobis (Gould, *B. As.* pt. ix. pl. 12), was founded on a mutilated specimen obtained alive from a Nicobar savage, and a black-billed (and probably, therefore, female) example of it was subsequently procured by the late Dr. Cantor in Province Wellesley. These were the only specimens known, when Herr v. Pelzeln obtained it in the Car Nicobar, and quite recently I saw three in a collection, which also contained two of P. ERYTHROGENYS, but whence obtained could not be learned, and there were no species peculiar to the Andaman or Nicobar Islands together with them, though several common to the Tenasserim provinces and Malayan peninsula. The fine P. DERBIANUS (*P. Z. S.* 1850, pl. 25; Gould, *B. As.* pt. x. pl. 9) is only known from a single specimen, the habitat of which could not be ascertained; and P. BARBATUS, Gm. (Souancé *Rev. Zool.* 1856, p. 209; *P. luciani*, Verreaux, *P. erythrogenys*, Fraser, *P. Z. S.* 1850, pl. 26; Gould, *B. As.* pt. ix. pl. 11), is yet another species of which the habitat has only recently been ascertained, viz. Western China (Sze-chuen), though three or four specimens of it were preserved in different museums. All of these birds, excepting the first-mentioned two (from S. India and Ceylon), are nearly akin to P. VIBRISCA, though well distinguished in every instance; and the last three of them are not unlikely to prove indigenous to different parts of the Indo-Chinese countries. P. LONGICAUDATUS (Gould, *B. As.* pt. x. pl. 10, 11); *P. malaccensis* (Gmelin, nec Latham); *P. erythrogenys* (Lesson, and of which

[*Palæornis eupatrius*, Lin., is the correct title. *Psittacus alexandri*, Lin., belongs to the Javan parrakeet.]

2. *P. TORQUATUS (J. 148).

Kyai-gyot.

Resorts to open country as elsewhere, and is therefore chiefly met with in the interior, beyond the maritime belt of forest. Dr. Cantor procured it so far southward as in Province Wellesley.

[Thayet Myo (*Wardlaw Ramsay*).]

3. *P. SCHISTICEPS (J. 150).

P. schisticeps, Hodgs.; Gould, *B. As.* pt. x. pl. 8.

Mountains of Arakan.

[Tonghoo hills (*W. R.*). The Tonghoo bird belongs to the race named *P. finschii*, Hume (Str. Feath. ii. p. 509).]

4. *P. CYANOCEPHALUS (J. 149, *partim*).

P. cyanocephalus, Lin.; Edwards, pl. 233. *Kyai-ta-ma.*

Exceedingly common in the forests of British Burma, where it takes

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P. affinis, Gould, and *P. viridimystax*, nobis, are the young), belongs to the southern half of the Malayan peninsula, with the islands of Sumatra and Borneo, and LORICULUS GALGULUS has exactly the same range of distribution; the latter being replaced in Java by L. PUSILLUS, G. R. Gray; which is closely akin to L. VERNALIS of India and Burma, it being, however, well distinguished, which is more than can be averred of P. VIBRISCA as inhabiting the same island.

[The Andaman race of *P. erythrogenys* (*P. affinis*, Tytler, *P. tytleri*, Hume) slightly differs. *P. derbyanus* is not generally admitted to be distinct from *P. melanorhynchus*, Wagler. It is not certain whether the title *Psittacus barbatus*, Gm., should not be expunged. It was given to Latham's *bearded parrakeet* (Syn. i. p. 238, no. 38), described from a specimen, origin unknown, in the Hunterian Museum. Examples of the species, *P. luciani*, are so rare, that a comparison with Latham's description is difficult to make. Eventually examples exhibiting the phase of plumage described by Latham may be met with; in the mean time it seems best to follow Dr. Finsch and adapt Verreaux's title.]

* The Indo-Chinese bird should now be compared with the Andaman race, as described by Mr. V. Ball (*J. A. S. B.* xli. pt. ii. p. 278).

[I have compared a large series of Burmese and Andaman individuals, and find that the latter differ by having the bills considerably larger.]

the place of P. ROSA (Boddaërt) of India generally and Ceylon. In Nipâl both species occur, but the present one only (if I mistake not) in Lower Bengal, and its range extends eastward to the south of China. There are various distinctions, one of which is that in P. ROSA the wings are blue on the inner side, while in P. CYANOCEPHALUS they are green within. P. ROSA is also a much more finely coloured bird than the other, and has a conspicuously longer tail.

[Rangoon, Karen hills, Tonghoo (*W. R.*). Linnæus's title of *Psittacus cyanocephalus*, founded on Brisson's *Psittaca cyanocephala* (Orn. iv. p. 359, no. 70, pl. xix. f. 2, "East Indies"), applies to this race. While *Psittacus purpureus*, P. L. S. Müller (Suppl. p. 74, no. 6, *d.*), founded on the *Perruche à tête rouge de Gingi* (Daubent. Pl. Enl. 264), *Psittaca gingiana erythrocephala*, Briss. (*t.c.* p. 346, no. 65, pl. 29, f. 2, "royaume de Gingi"), as shown by the late Mr. Cassin, ten years ago (P. Ac. N. Sc. Philadelphia, 1864, p. 239), must take precedence of Gmelin's title of *Psittacus erythrocephalus* (S. N. i. p. 325, No. 74 ex Briss.). Mr. G. R. Gray (H. List, ii. No. 8054), who followed Cassin, adopted P. L. S. Müller's title, and retained it, rather vaguely, for the species inhabiting "India and Ceylon," while restricting Gmelin's title of *bengalensis* to the Nipalese form. Curiously enough, Mr. Gray wrongly associated P. L. S. Müller's title of *purpureus* with Daubenton's plate, No. 888, on which Boddaert founded his title of *Psittacus rosa* (Table, p. 53). There does not appear to be conclusive proof of both species occurring in Nipal, but *conf.* Jerdon, in Ibis (1872, p. 6, No. 149). The title of *Psittacus rosa*, Boddaert, strictly pertains to the Bengal form.]

5. *P. VIBRISCA (J. 152).

Psittacus ponticerianus, Gmelin; *P. alexandri* (L.), apud Finsch, *Die Papageien*, tom. ii. p. 59; *P. modestus*, Fraser, the young.

An exceedingly common species in the forests of British Burma, and Mason remarks of it (in particular) that "immense flocks of Parrakeets may be seen simultaneously descending on the rice-fields, where persons have to be in constant attendance to drive them away during the season of harvest;" while of P. TORQUATUS he notices that it is "often seen in the rice-fields, but in smaller companies, which have not the habit of simultaneous descent." Westward, the present species is common in the Terai region of the E. Himalaya, but its range does not extend further into India, whence its synonym of *ponticerianus* is a misnomer. Great numbers of the very young are brought every season to Calcutta from Chittagong, and it is remarkable that from the earliest age the males only have the upper mandible coral-red. In a presumed female which I possessed in captivity, the upper mandible changed from black to coral-red when the bird was about eighteen months old; and I have seen numerous specimens which had been killed when the change was in progress. I have also shot red-billed and black-billed specimens out of the same flock, and therefore cannot admit the *P. nigrirostris*, Hodgson, as a distinct species, differing only in the colour of the upper mandible. Moreover, the same sexual diversity in the colouring of the bill, whether permanently or otherwise, occurs in several kindred species. Rarely, the lower mandible is also red in Burmese specimens, almost constantly so in Javanese examples; but I have been unable to detect the slightest difference of plumage on comparison of skins from Nipâl, Arakan, and Java.

[Rangoon, Tonghoo (*W. R.*). Assuming that the rose-breasted parrakeets of the Indian Continent and Burma belong to one species, and those of Java and Borneo to another, it is not difficult to allot to the first their correct title. Mr. G. R. Gray (*t.c.* No. 8066), following Cassin (*l.c.*), adopted for the Indian species exclusively P. L. S. Müller's title of *Psittacus fasciatus*, bestowed by him (*t.c.* p. 74, no. 6, f.) on Daubenton's plate (*op. cit.* no. 517), and which subsequently served as the subject of *Psittacus vibrissa*, Boddaert, not *vibrisca* (*t.c.* p. 30), and of *Psittacus pondicerianus*, Gm. (*t c.* p. 325, No. 73). This plate, as has been shown by Dr. Finsch, was taken from the Javan species, and therefore the titles cited fall before that of *Psittacus alexandri*, Lin. Wagler (Monog. p. 511) first bestowed a title, that of *Palæornis melanorhynchus*, on the Continental species, and by this it must be called.]

6. P. MELANORHYNCHUS.

P. melanorhynchus, Wagler, nec Sykes; Ibis, 1873, p. 79; *P. nigrirostris*, Hodgson, *partim*, vide *Calc. Journ. N. H.* vii. p. 560.*

A most closely allied species to the last, from the Tenasserim provinces, if not also the base of the Eastern Himalaya. As seen alive, together with examples of the preceding, the difference is more conspicuous from its purely white irides, whereas the other has dark irides. The cap has a slight tinge of verditer, but no trace of ruddy colouring, and the red of the breast is continued past the black moustachial streak and the ear-coverts, so as to form a half-collar bordering the sides of the cap; it also does not descend so far on the abdominal region, a larger portion of which is green than in the other. These differences are conspicuous in the living birds when seen together. All hitherto examined have the bill black, but in the male it is probable that the upper mandible is coral-red. A living specimen in the London Zoological Gardens is alleged to be from Kashmir, which is certainly a mistake. There are skins in the British Museum which are positively from the Tenasserim provinces.

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* It is worthy of notice that Mason designates the bird, not distinguishing the two races, as the "black-billed Parrakeet."

[The facts here stated are quite new. I am not aware that they have ever been previously published. Dr. Jerdon certainly was unacquainted with them. Further investigation is most desirable; more especially as Mr. Blyth is completely at issue on many points with what has been averred by Mr. Hume. My own experience does not accord with Mr. Blyth's opinion.]

7. PSITTINUS MALACCENSIS.

Psittacus malaccensis, Latham, nec Gmelin; *P. incertus*, Shaw; Swainson's *Ill. Orn.* pl. 154.

This common Malayan species occurs in Mergui province. It is essentially a short-tailed *Palæornis*, but with affinity to *Tanygnathus*.

[Blyth's generic title *Psittinus* is absorbed by Dr. Finsch in Kuhl's *Psittacula*. Latham's specific title *malaccensis* is also by the same author superseded, on the ground of its conveying an erroneous idea of the geographical range, and Shaw's title *incertus* is adapted. A better or more acceptable reason is that Gmelin and Latham named two distinct species of Asiatic parrots by the title of *malaccensis*.]

8. *LORICULUS VERNALIS (J. 153).

Kyai-tha-da.

Generally diffused in the forests.

[Tonghoo (*W. R.*).]

Order RAPTORES.

Fam. Falconidæ.

9. FALCO PEREGRINATOR (J. 9).

Falco peregrinator, Sundev.; Gould, B. As. pt. iii. pl. 2; *F. communis*, var. (?) Raffles, *ex* Sumatra.

It is asserted by Mason that I showed him a skin of this Falcon received from Burma, though I have no recollection of the circumstance. It is, however, a most likely species to occur there, as is also *F. peregrinus*, in suitable localities, where ducks resort plentifully. *F. peregrinator* would appear to be chiefly a Malayan species, and the specimen of it originally obtained by Sundevall was obtained on board ship, in lat 6°, between Ceylon and Sumatra, about seventy miles from the Nicobar Islands.

[Major Lloyd has sent me an undoubted example of this Falcon, shot near Tonghoo.]

[10. F. PEREGRINUS (J. 8).

Prome (*Oates*).]

11. HYPOTRIORCHIS SEVERUS (J. 14).

Tenasserim. Inhabits from the S. E. Himalaya to Java and the Philippines, but has not hitherto been met with in the plains of India. Mr. Holdsworth notes it from Ceylon.

*12. TINNUNCULUS ALAUDARIUS (J. 17).

Gyo-theing.

Common. *T. saturatus*, nobis,* from the Tenasserim provinces, is perhaps a distinct race, remarkable for the great development of the black markings on its plumage ; but it requires further confirmation.

[Tonghoo (*Lloyd*), Karen nee (*W. R.*), Thayet Myo (*Feilden*).

Tinnunculus atratus, Blyth, apud G. R. Gray, H. L. No. 212, *ex* Burma, is a misprint for *T. saturatus*, Blyth.]

[13. ERYTHROPUS VESPERTINUS? (J. 19).

Mr. Hume has thus, with doubt, identified an example sent to him by Captain Feilden from Thayet Myo.]

14. POLIOHIERAX INSIGNIS.

Poliohierax insignis, Walden, P. Z. S. 1871, p. 627 ; *Lithofalco feildeni*, A. O. Hume, P. A. S. B. 1872, p. 70.

Upper Pegu.

*15. HIERAX EUTOLMUS (J. 20).

Falco cærulescens, apud Stoliczka, J. A. S. B. pt. 2, xxxix. p. 282. *Koung-oo-hnouk.*

Arakan, Pegu, Tenasserim, Siam.

[The title of *Microhierax*, Sharpe, must be employed for this genus.]

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* J. A. S. B. xxii. p. 277 ; Ibis, 1866, p. 238.

16. H. FRINGILLARIUS.

H. fringillarius, Drapiez; *H. malayensis*, Strickland; *Falco cærulescens*, apud Vieillot, Gal. des Ois. t. 18; Pl. Col. 97.

Malayan Peninsula, Sumatra, Java, Borneo. Obtained by Helfer, probably in Mergui province (specimen in Calcutta Museum). In the north of Arakan, *H. melanoleucus*, nobis,* will most probably be found to occur, as it has been obtained in the province of Kachar.

[Meeta Myo (*Davison*).]

*17. BAZA LOPHOTES (J. 58).

Arakan, Tenasserim, Malacca.

18. PERNIS PTILORHYNCHUS (J. 57).

A long-crested specimen received from Mergui, and described as *P. brachypterus*.† Its primaries were not fully grown. Mr. A. O. Hume notes it from Burma and Siam.

[Tonghoo (*W. R.*), Thayet Myo (*F.* and *O.*)]

*19. ELANUS MELANOPTERUS (J. 59).

Arakan, Tenasserim. "Various localities in British Burma" (*A. O. Hume*).

[Thayet Myo (*W. R.*), Arakan (*O.*).]

*20. SPILORNIS CHEELA (J. 39).

Doung-tswoon.

Common in Arakan, if correctly identified, as is most probable. The nearly allied but smaller race, with shorter crest, *S. bacha* (Daudin); *Falco bido*, Horsfield; *Hæmatornis spilogaster*, nobis; *H. elgini*, Tytler, inhabits the Andamans, South India, and Ceylon, as also Malacca and Java; and, according to Messrs. Swinhoe and Gurney, is an intermediate race.

[Tonghoo (*W. R.*); Thayet Myo (*F.*). *S. elgini*, Tytler, is undoubtedly a distinct species. Nor can I agree to unite *S. spilogaster* with *S. bacha*. At Kalee Gunge Dr. Day obtained an adult bird, in the rich brown plumage of true *S. bacha*.]

21. S. RUTHERFORDI.

S. rutherfordi, Swinhoe, Ibis, 1870, p. 85.

Has been procured in the vicinity of Rangoon, in Siam, and Hainan.

[Said by Mr. Hume to have been obtained near Tonghoo. Neighbourhood of Amherst and Ye (*D.*).]

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* J. A. S. B. xii. p. 179 bis.

† J. A. S. B. xxi. p. 436.

*22. CIRCUS MELANOLEUCUS (J. 53).

Thein-kya.

Arakan, Pegu, Tenasserim.

[Tonghoo (*W. R.*); Thayet Myo, Rangoon (*F.*).]

*23. C. CINERACEUS (J. 52).

Pegu, Tenasserim.

*24. C. SWAINSONII (J. 51).

Arakan, Pegu.

*25. C. ÆRUGINOSUS (J. 54).

Arakan, Tenasserim.

[Tonghoo, Rangoon (*W. R.*).]

26. POLIORNIS TEESA (J. 48).

Common in Province Amherst.

[Tonghoo (*W. R.*); Thayet Myo (*O.*). Hodgson's generic title, *Butastur*, takes precedence over *Poliornis*, Kaup.]

27. P. INDICUS.

Falco indicus, Gmelin; *F. javanicus*, Latham; *Buteo poliogenys*, Temminck, *Fauna Japonica*, pl. vii. B., where printed *pyrrhogenys*; *B. pygmæus*, nobis, J. A. S. B. xiv. p. 117; *Astur barbatus*, Eyton.

According to Mr. A. O. Hume, this species "has now occurred on several occasions in Southern Burma." The specimen described as *Buteo pygmæus* was obtained by Helfer. One procured by Mr. Swinhoe in Formosa had a crested occiput.*

28. P. LIVENTER.

P. liventer, Temminck, p.c. 438.

An example from Tonghoo, identified by Viscount Walden;† Siam (*Gurney*).

[Tonghoo (*W. R.*); Thayet Myo (*O.*). To Major Lloyd belongs the credit of having first discovered that this species was an inhabitant of Burma, where, judging by the number of examples sent to me, it appears very common.]

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* Ibis, 1864, p. 429.

† Tr. Z. S. viii. p. 37 (1871).

*29. ACCIPITER VIRGATUS (J. 25).

Arakan, Tenasserim. Common.

[Thayet Myo (*F.*). Captain Feilden was good enough to send me the example here noted, and which I provisionally identify with *A. virgatus.* In Mr. Sharpe's opinion it may belong to the race named *A. stevensoni* by Mr. Gurney. The latter gentleman, however, as will be seen below, identified, although with doubt, this Thayet Myo example as belonging to "*A. rhodogaster*, nearly adult." Above, the plumage is dark cyanous. The breast is dove-coloured, without a trace of rufous. The abdomen pure white, with dove-coloured bands. The ventral region and under tail-coverts pure white; also the throat, with the exception of a mesial line of ash-coloured feathers. Tarsus, 2; wing, 6·25; tail, 5·50.]

30. TERASPIZIAS RHODOGASTRA.

Nisus rhodogaster, Schlegel; Tr. Z. S. vol. viii. pt. ii. p. 33, pl. 11.

Mr. Gurney thus identifies a specimen sent to Lord Walden from Thayet Myo.

[This refers to the example above mentioned. It is, however, highly improbable that a species peculiar to Celebes should occur in Burma.]

*31. MICRASTUR BADIUS (J. 23).

Thinkyet-oma.

Arakan, Siam, Hainan. Common. *M. soloënsis*, Horsfield, should be looked for, as it was obtained in the Car Nicobar by Herr v. Pelzeln.* *Nisus minutus*, Lesson, is identified with it by Dr. Pucheran,† being founded on a specimen alleged to have been received from the Coromandel coast. Prof. Schlegel notes it from Java, Celebes, the Philippines, and China.

[Tonghoo, Karen hills, at 4000 feet of elevation (*W. R.*); Pahchaun, Pabyouk, Pahpoon (*D.*). The Burman race of this species has been separated by Mr. Hume, under the title of *Micronisus poliopsis*, Str. Feath. ii. p. 325.]

*32. LOPHOSPIZIAS TRIVIRGATA (J. 22).

Arakan, Tenasserim.

[Eastern slopes of the Pegu hills (*O.*); pine forest north of Kollidoo (*D.*). Hodgson's title of *indicus* is adopted by some authors for the somewhat larger Nipalese race of this Sumatran species.]

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* *Reise "Novara," Aves*, 1850, p. 12.

† Rev. Zool. 1850, p. 210.

*33. Spizaëtus limnaëtus (J. 34).

Arakan, Tennasserim, Malacca, Sumatra.

[Tonghoo (*W. R.*); Thayet Myo (*O.*).]

34. S. alboniger.

S. alboniger, nobis, J. A. S. B., xiv. p. 173; Gould, B. As. pt. xv. f. 1.

Mergui, Malacca, Borneo.

*35. Aquila bifasciata (J. 27).

Won-lo.

Specimen received from Arakan, in the phase of plumage figured as *A. bifasciata* by Hardwicke and Gray.*

*36. A. nævia? (J. 28).

A. orientalis, Cab., Gurney, Ibis, 1872, p. 329.

Arakan.

*37. A. fusca (J. 30).

A. fusca; *vide* Mr. A. Anderson, P. Z. S. 1872, pp. 69, 622; *Morphnus hastatus*, Lesson.

Arakan.

[The author of the title, *A. fusca*, is not written in the MS.]

38. Hieraëtus pennatus (J. 31).

Moulmein.

I have seen a Spanish specimen with rudimentary occipital crest, as usual in Indian examples.

[Thayet Myo (*F.*).]

39. Neopus malayensis (J. 32.)

Tenasserim provinces.†

*40. Pandion haliaëtus (J. 40).

Won-let.

Arakan, Tenasserim. Common.

*41. Polioaëtus icthyaëtus (J. 41).

Common.

[Tonghoo (*W. R.*); Pabyouk (*D.*).]

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* *Vide* Mr. W. E. Brook, P. Z. S. 1872, p. 502, and Mr. A. Anderson, *ibid.* p. 620; also Dresser, *ibid.* 1872, p. 863; and H. Gurney, Ibis, 1873, p. 99.

† P. Z. S. 1868, pl. 34.

42. P. HUMILIS.

Falco humilis, S. Muller; *Icthyaëtus nanus*, nobis.

Burma, *fide* Viscount Walden. Mr. W. E. Brooks identifies *Haliaëtus plumbeus*, Hodgson,* with this species.

*43. BLAGRUS LEUCOGASTER (J. 43).

A common maritime species which preys chiefly on sea-snakes.

*44. HALIASTUR INDUS (J. 55).

Common, extending southward to Malacca.

[Tonghoo (*W. R.*); Thayet Myo (*O.*).]

*45. MILVUS GOVINDA (J. 56).

Tswon-boke.

Common in the cold season. At Bangkok it is as abundant as in Calcutta. Cantor procured it at Pinang.

[46. M. AFFINIS.

M. affinis, Gould, P. Z. S. 1837, p. 140.

Thayet Myo examples, obtained by Mr. Oates and Captain Feilden, are thus identified by Mr. Hume.]

[47. BUTEO PLUMIPES (J. 47).

A Buzzard obtained by Captain Feilden at Thayet Myo is identified by Mr. Hume as *B. japonicus*, Schlegel.]

Fam. **Vulturidæ.**

Vultures.

48. VULTUR CALVUS (J. 2).

Vultur calvus, Scopoli; Gould, B. As. pt. xi. pl. 1.

Not a common species.

49. GYPS INDICUS (J. 4).

Vultur indicus, Scopoli; Gray and Mitchell, Gen. Birds, pl. 3, immature plumage.

Arakan, Siam. Vultures assigned to this species are mentioned to have been obtained on Zwagaben mountain by Lieut. Beavan.† I have seen two specimens of *G. indicus* in a Malacca collection. No doubt a Vulture of any kind is there rare, or it would not have been deemed worthy of preservation.

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* J. A. S. B., xli. pt. i. p. 73.

† P. Z. S. 1866, p. 3.

According to Sir T. Stamford Raffles, "Vultures are rare on the west coast of Sumatra, but are occasionally seen on the Malay peninsula, and at Pinang."* Mr. E. W. H. Holdsworth notices that the *Vulturidæ* are absent from Ceylon;† and Mr. Wallace asserts the same of the entire Malayan archipelago.‡

[Upper Pegu (*O.*).]

50. G. BENGALENSIS (J. 5).

Leu-ta.

"Often seen in great numbers, even in the suburbs of large towns" (*Mason*). I noticed a few about Akyab only. Cantor procured it in Province Wellesley.§ It abounds as much in Siam as in Bengal.

[Thayet Myo (*Hume*); Pabyouk (*D.*).]

Fam. **Strigidæ.**

Owls.

51. HUHUA NIPALENSIS (J. 71).

Specimen in nestling garb, obtained by Colonel Tickell upon Moulè-it mountain, and described by him as *Ptiloskelos amherstii.*‖ This species has been confounded with the Malayan *H. orientalis* (Horsfield), which is a much smaller kind, and otherwise differs considerably. The young of both are in the British Museum, which enables me to confirm the present identification.

[Tonghoo (*W. R.*).]

*52. ASCALAPHIA BENGALENSIS (J. 69).

Arakan.

*53. A. COROMANDA (J. 70).

Arakan.

54. SCOPS LETTIA (J. 75).

Arakan, Tenasserim. Identical with Himalayan specimens.

[Rangoon, Karen hills (*W. R.*); Thayet Myo (*F.*). The Rangoon and Karen examples are not separable from Malaccan individuals. But they are distinct from true *S. lempiji*, Horsf., which is from Java.]

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* Tr. L. S. xiii. p. 277.

† P. Z. S. 1872, p. 406.

‡ Ibis, 1868, p. 2.

§ P. Z. S. 1854, p. 258.

‖ J. A. S. B. vol. xxviii. p. 448.

*55. S. BAKKAMUNA (J. 74).

S. pennata et *S. sunia*, Hodgson; Gould, B. As. pt. xxii. pl. 3.

Arakan. *Otus mantis*, S. Müller, which is *S. rufescens*, Horsfield, is dubiously stated by Mr. A. O. Hume to have been found in Burma.

[Thayet Myo (*F.* fide *Hume*).]

*56. KETUPA CEYLONENSIS (J. 72).

Tee-dok.

Arakan. The common Indian species, an example of which was obtained by Canon Tristram in the valley of the Jordan. Its range extends eastward to China.

[Tonghoo (*W. R.*); common from Thayet Myo to Tonghoo (*O.*); Amherst (*D.*).]

57. K. JAVANENSIS.

K. javanensis, Lesson; *Strix ketupa*, Horsfield; *Strix ceylonensis*, apud Temminck, P. C. 74.

One received from Ramri Island, Arakan; also Siam. Common in the Malayan peninsula and archipelago.

[Amherst (*D.*).]

*58. ÆGOLIUS BRACHYOTUS (J. 68).

Brachyotus accipitrinus (Gm.), Ibis, 1872, p. 328.

Arakan.

[*Asio accipititrinus* (Pallas) is the correct denomination of this Owl. Those authors who may desire to generically separate it from the long-eared Owl, will have to adopt the generic title of *Brachyotus*, Gould, and not that of *Ægolius*, K. and B., previously employed by Kaup as the generic title of *S. tengmalmi.*]

*59. ATHENE WHITELEYI (?).

Athene whiteleyi (?), Blyth, Ibis, 1867, p. 313; *A. cuculoides* (?).

Arakan, Tenasserim. Common.

A. castanoptera, Horsfield, a Javanese species, is mentioned by Helfer; and an example of the Indian *A. radiata* was obtained by Dr. Cantor from Keddah.*

[Rangoon, Tonghoo, Yey-tho (*W. R.*); Thayet Myo (*O.*). The numerous individuals collected by Major Lloyd and Lieutenant W. Ramsay all belong to true *A. cuculoides.*]

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* P. Z. S. 1854, p. 262.

[60. A. PULCHRA.

A. pulchra, Hume, Str. Feath. 1873, p. 469.

Thayet Myo (*W. R.*).]

61. GLAUCIDIUM BRODIEI (J. 80).

Noctua brodiei, Burton; Gould, B. As. pt. xxii. pl. 4.

Obtained by Colonel Tickell upon Moulè-it mountain.

[Meeta Myo, Kyouknyat (*D.*).]

*62. NINOX SCUTULATUS (J. 81).

Khen-bok.

Arakan, Tenasserim, Malacca. Common.

"Very abundant at Tavai; and though I never heard it at Moulmein, its familiar voice saluted me on the first night of my arrival at Tounghoo" (*Mason*).

[Karen hills (*L.*); Tonghoo (*W. R.*); Thayet Myo (*O.*); Pahpoon, Kyouknyat, Amherst (*D.*). Until comparison has been made with Sumatran examples, it will be best to retain the title of the Ceylon species, *N. hirsutus*, for the Burman *Ninox.*]

63. SYRNIUM SELOPUTÓ.

Strix seloputo, Horsfield; *Strix pagodarum*, Tem., P. C. 220; *S. sinensis*, vera.? Latham, not of Hardwicke and Gray.

Mergui, Siam, Nicobar Islands. In Assam, according to Mr. A. O. Hume, this species apparently replaces the *S. occellatum* of India, and it is "constantly found in Burma."

[Thayet Myo (*F.*). Identical with Malaccan examples. *S. sinensis*, Lath., founded on Sonnerat's *Hibou de la Chine* (Voy. Indes, ii. p. 185), can hardly refer to this owl.]

64. S. INDRANI (J. 63).

This should be the Burmese race, as it occurs at Malacca, as well as in South India and Ceylon; but Mr. A. Hume has a Burmese specimen, and suspects that "if the Nipâl and Nilgiri birds be distinct, the Burmese, Kumaon, Simla, and Kotegurh birds are intermediate between these two."*

65. PHODILUS BADIUS (J. 62).

Strix badia, Horsfield; Gould, B. As. pt. xxii. pl. 6.

Arakan, Tenasserim, Siam, Malay countries.

[Tonghoo, Karen hills (*W. R.*). Identical with Malaccan and Bornean examples.]

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* "Scrap-book," Part I. *Raptores*, No. 2, p. 351.

*66. STRIX JAVANICA (J. 60).

Strix javanica, Gm.; Gould, B. As. pt. xxiv. pl. 1; *S. indica*, Blyth, Ibis, 1866, p. 250; nec *S. javanica*, apud Horsfield, as figured by Gray and Mitchell, Gen. Birds, pl. 15.

Common and generally diffused.

[Thayet Myo (*F.*). This is true *S. javanica*, Gm., founded on F. von Wurmb's *Nachteule von Java* (Magazin f. d. Neueste, iv. pt. 2, p. 10, no. 4, 1786). No Latin title was given by this author.]

67. S. CANDIDA (J. 61).

S. candida, Tickell; Gould, B. As. pt. xxiv. pl. 2.

Tonghoo. Occurs also in Central and Southern India, China, the Philippine Islands, and Australia.

[Tonghoo (*L.*).]

Order INSESSORES.

Sub-order PICARIÆ.

Tribe HALYCONES.

Fam. **Bucerotidæ.**

Hornbills.

*68. DICHOCEROS BICORNIS (J. 140).

Young-yen, Arakan (*Phayre*). *Oukchingee* (Big-Hornbill), and sometimes *Yonia* (*Beavan*).

This fine Hornbill seems to be generally diffused through the forests, and is by no means rare, nor particularly shy. Southward its range extends to Malacca and Sumatra.*

[Mong (*W. R.*); common on the western slopes of the Pegu hills (*O.*); Pahpoon, and 30 miles north of Ye (*D.*). Mr. Hume (Str. Feath. ii. p. 470) treats the Malaccan race as distinct. The characters which differentiate the Indian from the Malayan forms have yet to be recorded.]

*69. HYDROCISSA ALBIROSTRIS (J. 142).

Ouk-Khyen.

The commonest species of Hornbill throughout British Burma.

[Tonghoo, Karen hills (*W. R.*).]

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* *Buceros cavatus* and *B. bicornis* are given as distinct species by Mr. W. H. Blanford, Ibis, 1870, p. 466. It can only be by a mistake of some kind.

70. ANORRHINUS TICKELLI.

Buceros tickelli, nobis, J. A. S. B. xxiv. pp. 266, 285; xxviii. p. 412; Ibis, 1864, pl. iii.

Mountains of Amherst Province, up to 4000 feet of elevation. A kindred species from the Nagas was referred to *A. galeritus* by Major Godwin-Austen,* and is named *A. austeni* by Dr. Jerdon;† but it proves to be no other than the Malayan *Craniorrhinus corrugatus* (Tem. P. C. 520), the head being now in the possession of Lord Walden. *A. galeritus* is also a Malayan species.

*71. ACEROS PLICATUS (?).

Buceros plicatus (?), Latham; *B. ruficollis*, nobis, J. A. S. B. xii. p. 176.

Chittagong, Kachar, Arakan, Tenasserim provinces, Malayan peninsula, Sumatra, Java (?). Javanese specimens appear to me to be somewhat different. In Tenasserim, remarks Mr. Barbe, both this species and the next are very common, associating in flocks of a dozen or twenty birds, but the two species do not mingle in the same flock.

[Dr. Day obtained this species in Assam.]

72. A. SUBRUFICOLLIS.

A. subruficollis, nobis, J. A. S. B. xii. p. 177.

Tenasserim provinces, Malayan peninsula. This species is very closely akin to the Papuan *A. ruficollis* (verus), the females being undistinguishable.

[Tonghoo (*W. R.*).]

73. A. NIPALENSIS (J. 146).

Munipur, Kachar, Tenasserim mountains.‡

Fam. **Upupidæ.**

Hoopoes.

74. UPUPA LONGIROSTRIS.

Upupa longirostris, Jerdon, B. of Ind. i. p. 393. *Toung pee-tsok.*

Tenasserim, Siam, Hainan.

This is hardly to be considered more than a deeply-coloured race of *U. epops*, and I have an impression that Arakan specimens are pale, like those of Lower Bengal and also of Europe.§

[Tonghoo, Thayet Myo (*W. R.*).]

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* J. A. S. B. xxxix. p. 96. † Ibis, 1872, p. 6.

‡ For notice of the Hornbills of British Burma, *vide* Tickell, Ibis, 1864, p. 173 *et seq.*

§ *Cf.* Stoliczka, J. A. S. B. xli. pt. 2, p. 235; Sharpe and Dresser, Hist. of Birds of Europe, pt. vii.; Murie, Ibis, 1873, pp. 181 *et seq.*

Fam. Alcedinidæ.

Kingfishers.

75. CARCINEUTES PULCHELLUS.

Carcineutes pulchellus (Horsf.), Sharpe, *Mon. Alc.* pl. 96.

The range of this Malayan species extends to Mergui.

[Karen hills (*W. R.*); Amherst (*D.*). The examples from the Karen hills are absolutely identical with those Malaccan individuals which possess a rufous collar. This collar is strongly marked in these Karen specimens. But in many Malaccan specimens it is wanting. When in this common phase of plumage, they become the *C. amabilis*, Hume (Str. Feath. i. p. 474), founded on Upper Pegu examples obtained by Mr. Oates.]

*76. PELARGOPSIS BURMANNICA.

Pelargopsis burmannica, Sharpe, *Mon. Alc.* pl. 35. *Peing-nyen* (generic).

Arakan (?), Tenasserim provinces, Siam, Andaman Islands.

One of several geographical races which are barely separable.

[Yey-tho, Karen nee (*W. R.*); Thayet Myo (*O.*).]

*77. P. AMAUROPTERA (J. 128).

P. amauroptera (Pearson), Sharpe, *Mon. Alc.* pl. 30.

This species is seldom seen far inland, though in India it occurs in the *Tarai* at the foot of the Eastern Himalaya; being chiefly seen about estuaries where the water is brackish. It probably is nowhere more abundant than along the Tenasserim coast.

[Yey-tho (*W. R.*).]

*78. HALCYON PILEATA (J. 130).

Halcyon pileata (Bodd.), Sharpe, *Mon. Alc.* pl. 62.

Common.

[Palow (*O.*); Karope, Tavoy, Moulmein (*D.*).]

*79. H. COROMANDA (J. 131).

H. coromanda (Lath.), Sharpe, *Mon. Alc.* pl. 57.

Common, chiefly about estuaries.

[Meeta Myo, Amherst, Tavoy (*D.*).]

*80. H. SMYRNENSIS (J. 129).

H. smyrnensis (Linn.), Sharpe, *Mon. Alc.* pl. 59.

The most common species of its genus, as generally throughout Southern Asia.

[Rangoon, Tonghoo (*W. R.*).]

*81. SAUROPATIS CHLORIS (J. 132).

Halcyon chloris (Bodd.), Sharpe, *Mon. Alc.* pl. 87.

Common along the sea-coasts.

[Amherst, Henza Basin (*D.*).]

*82. CEYX TRIDACTYLA (J. 133).

Ceyx tridactyla (Pall.), Sharpe, *Mon. Alc.* pl. 40. *Deing-nyeen.*

Arakan, Tenasserim, Malacca.

[Eastern Pegu hills (*O.*); between Tavoy and Meeta Myo, Karope, Ye (*D.*).]

*83. ALCEDO BENGALENSIS (J. 134).

Alcedo bengalensis, Gm., Sharpe, *Mon. Alc.* pl. 2.

Common.

[Rangoon, Tonghoo, Karen nee (*W. R.*); Thayet Myo (*F.*).]

*84. A. ASIATICA.

A. asiatica, Swainson; *A. meningting*, Horsfield; Sharpe, *Mon. Alc.* pl. 5.

Tenasserim provinces. It is remarked by Mr. W. T. Blanford, that *Pelargopsis burmannica*, *Halcyon smyrnensis*, and *Alcedo bengalensis*, are apparently replaced in the Irawádi delta, where the water is salt, by *P. amauroptera*, *H. pileata*, and *A. asiatica*. According to Helfer, *Alcedo beryllina*, Vieillot (*biru*, Horsfield), is also an inhabitant of the Tenasserim provinces, but I have never seen it even from the Malayan peninsula. The present, however, is one of the species which Helfer did procure.

[This is probably *A. beavani*, Walden, for Mr. Hume remarks that Amherst and Ye examples are identical with individuals from various parts of India and from the Andamans. *A. meningting*, Horsf., the senior title of *A. asiatica*, is a perfectly distinct species.]

*85. CERYLE RUDIS (J. 136).

Ceryle rudis (Linn.), Sharpe, *Mon. Alc.* pl. 19.

Arakan, Tenasserim, Siam, Malacca, South China.

[Tonghoo (*W. R.*); Thayet Myo (*O.*).]

[86. C. GUTTATA (J. 137).

C. guttata (Vig.), Sharpe, Mon. Alc. pl. 18.

Kollidoo, Pachaun (*D.*).]

Fam. Coraciadæ.

Rollers.

*87. CORACIAS AFFINIS (J. 124).

Coracias affinis, McClell., Gray and Mitchell, Gen. Birds, pl. 211, not good. *Hgnet-kha.*

Generally diffused, and always typically coloured; whereas specimens from Tippera, Sylhet, Assam, and Lower Bengal are mostly crossed more or less with *C. indica*, showing every gradation from one to the other. Gould's figure assigned to *C. affinis* in his "Birds of Asia"* represents a hybrid of the kind; and *C. indica* also interbreeds with *C. garrula* in localities where those two races meet. Eastward, the present species extends at least to Siam.

[Rangoon, Tonghoo, Thayet Myo (*W. R.*).]

*88. EURYSTOMUS ORIENTALIS (J. 126).

Arakan, Tenasserim, Malacca.

Fam. Meropidæ.

Bee-eaters.

*89. MEROPS PHILIPPINUS (J. 118).

Merops philippinus, Linn.; Gould, B. As. pt. vii. pl. 2.

Arakan, Tenasserim, Siam, Malacca, Sumatra, Java, Philippines, South China. The Philippine race does not, as has been asserted, differ in any respect.

[Tonghoo (*W. R.*); Thayet Myo (*O.*).]

*90. M. ERYTHROCEPHALUS (J. 119).

M. erythrocephalus, Gm.; Gould, B. As. pt. viii. pl. 13.

Arakan, Tenasserim, Siam, Malacca. The Javanese *M. quinticolor*, Vieillot, is distinguished by having no rufous above the black pectoral band.†

[Rangoon, Karen nee (*W. R.*); Thayet Myo (*F.*). The Malaccan habitat is doubtful. For reasons already stated (Ibis, 1873, p. 301), Gmelin's title, taken from Brisson, cannot be adopted. If, however, the title of *quinticolor*, Vieillot, is to be used for the Javan race, the continental form must take the name of *M. leschenaulti*, Vieill. In either view the necessity of coining the new title of *M. swinhoei*, Hume, does not seem apparent.]

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* Part xxi. pl. 2.

† P. Z. S. 1871, p. 348.

*91. M. viridis (J. 117).

M. viridis, var. *ferrugiceps*, Hodgson.

Arakan, Tenasserim provinces, Siam. *M. sumatranus*, Raffles, occurs in Siam, and should be looked for in the Southern Tenasserim provinces.

[Rangoon, Tonghoo hills, Karen hills (*W. R.*).]

*92. Nyctiornis athertonii (J. 122).

Nyctiornis athertonii (J. & S.), Gould, B. As. pt. ii. pl. 2.

Tenasserim provinces.

[Tonghoo, Karen hills (*W. R.*).]

93. N. amicta.

Merops amictus, Temminck, P.C. 310; Swainson's Zool. Ill., 2nd series, pl. 56; Gould, B. As. pt. ii. pl. 3; *N. malaccensis*, Cabanis.

Procured by Helfer, probably in Mergui province.

[Near Zadee (*D.*). *N. malaccensis*, Cab., was described from the young bird.]

Tribe COCCYGES.

Fam. **Capitonidæ.**

Barbets.

*94. Megalæma marshallerum (J. 191).

Megalæma marshallorum, Swinhoe; Marshall's *Mon. Cap.* pl. 16. *Pko-goung.*

Arakan.

[Karen hills (*W. R.*). Mr. Hume has identified examples obtained by Mr. Davison at Kollidoo and Kyouknyat as belonging to *M. virens* (Bodd.), and not to the Himalayan bird.]

*95. M. hodgsoni (J. 192).

M. hodgsoni, Bp.; *M. lineata*, Marshall's *Mon. Cap.* pl. 36, 37.

Khásias, Arakan, Pegu, Tenasserim, Siam, Malacca (?), Java.

[Rangoon, Tonghoo, Yey-tho (*W. R.*); Thayet Myo (*O.*). Vieillot's title of *lineata* cannot be applied.]

*96. M. asiatica (J. 195).

M. asiatica (Lath.); Marshall, *Mon. Cap.* pl. 29. *Kok-kha-loung.*

Arakan, where not common.

[Tonghoo (*W. R.*); Pahpoon, Kollidoo (*D.*).]

97. M. FRANKLINII (J. 196).

M. franklinii (nobis); Marshall, *Mon. Cap.* pl. 24.

Khásias, Tenasserim mountains.

According to Col. Tickell, this species "swarms from 3000 to 5000 feet elevation, not higher, nor lower, and from the first level it suddenly supplants *M. lineata* (*M. hodgsoni?*), the *Pokoung* of the Burmese."

[98. M. RAMSAYI.

M. ramsayi, Walden, Ann. N. H. (4), 15, p. 400, June, 1875.

Karen nee (*W. R.*).]

*99. M. CYANOTIS.

M. cyanotis (nobis); Marshall, *Mon. Cap.* pl. 33, fig. 3.

Khásias, Tippera, Kachar, Arakan, Tenasserim provinces.
[Karen Hills (*W. R.*).]

[100. M. MYSTACOPHANUS.

M. mystacophanus (Tem.), Marshall, *Mon. Cap.* pl. 19.

Om-ben-gwen (*D.*).]

[101. M. INCOGNITA.

M. incognita, Hume, Str. Feath. ii. p. 442.

Karope, Ye (*D.*).]

*102. M. HÆMACEPHALA (J. 197).

X. hæmacephala (L. S. Müller); Marshall, *Mon. Cap.* pl. 42.

Arakan, Tenasserim, Siam, Penang, Malacca, Philippines.
[Rangoon, Tonghoo, Karen nee (*W. R.*); Thayet Myo (*O.*).]

Fam. **Picidæ.**

Woodpeckers. *Theet-touk* (generic).

*103. HEMICERCUS CANENTE (J. 165).

Picus canente, Lesson, Cent. Zool. t. 73.

Arakan, Pegu, Tenasserim. This only differs from the South Indian *H. cordatus* in being constantly larger.

[Karen hills, from 500 to 4000 feet (*W. R.*). Two males are sent by Mr. Ramsay. One has the head uniform deep black; the other with a few buff markings on the feathers of the forehead and crown.]

*104. ALOPHONERPES GUTTURALIS (J. 168).

Picus pulverulentus, Temminck, P.C. 389 ; *Picus gutturalis*, Valenciennes.

Arakan, Shan hills, Tenasserim, Malacca, Java. The largest of Asiatic Woodpeckers.

[Arakan and Pegu hills (*O.*); Tonghoo (*L.*). Examples from Cochinchina in no way differ. According to Sundevall (Consp. Av. Picinarum, p. 10, no. 23), Temminck's title has priority, and he quotes the year 1825 as the date of publication. But there must be some mistake, for Sundevall refers to the 65th Livraison of the Recueil, whereas *P. pulverulentus* was described and figured in the 66th. Anyhow, Crotch (Ibis, 1868, p. 500) gives 1826 as the year in which both these Livraisons were published. Elsewhere (Ibis, 1871, p. 164, note) reasons are stated why, while the exact date of Valenciennes' title remains undetermined, preference should be given to the one bestowed by Temminck.]

105. THRIPONAX CRAWFURDII.

Picus crawfurdii, J. E. Gray, Griffith's English edition of Cuvier's "Animal Kingdom," Birds, vol. ii. p. 513, pl. 1 ; *Hemilophus feddeni*, Blyth, J. A. S. B. xxxii. p. 75 ; *T. jerdoni*, Cabanis, Mus. Heine. ii. p. 105.

Upper Pegu.

[Thayet Myo, Tonghoo (*W. R.*); Pahpoon, Kyouknyat (*D.*).]

106. T. JAVENSIS.

P. javensis, Horsfield ; *Picus leucogaster*, Reinwardt, Tem. P. C. 501.

Mergui, Malacca, Sumatra, Java, Borneo, Philippines.

*107. CHRYSOCOLAPTES GUTTICRISTATUS (J. 166 *partim*).

Picus guttacristatus, Tickell ♀ ; *Indopicus delesserti*, Malherbe, *Mon. Picidæ*, pl. 64 ; Ibis, 1866, p. 355 ; 1872, p. 8.

Arakan, Tenasserim, Siam, Malacca.

[Yey-tho, Tonghoo (*W. R.*); Thayet Myo (*F.*); Arakan hills (*O.*). Tickell's title has priority over Malherbe's and Hodgson's titles.]

*108. TIGA JAVANENSIS (J. 184).

Picus javanensis, Ljungh ; *vide* Lord Walden in Ibis, 1871, p. 170 ; *Picus tiga*, Horsfield ; *Tiga intermedia*, Blyth.

Arakan, Tenasserim, Siam, Java. Common. A smaller race (*T. rufa*, apud Stoliczka) occurring in the Malayan peninsula and Sumatra.*

[Yey-tho, Rangoon, Tonghoo, Karen nee (*W. R.*); Thayet Myo (*O.*). Malaccan and Javan examples are smaller, otherwise identical.]

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* *Vide* Stoliczka, in J. A. S. B. xxxix. p. 289.

109. GECINUS STRIOLATUS (J. 171).

Pegu, delta of the Irawádi (*Blanford*).

[Tonghoo (*L.*). The Ceylon and Malabar form of this species is considerably smaller than the Sub-Himalayan and Burman. A Ceylon example has the uropygium deep golden orange.]

*110. G. VIRIDANUS.

G. viridanus, nobis, J. A. S. B. xii. p. 1000.

Arakan, Tenasserim, Pegu, Siam. Barely separable from *G. dimidiatus* of Sumatra and Java, but considered so by Lord Walden.*

[Tonghoo (*W. R.*). If considered identical with the Javan bird, this Woodpecker must take the title of *vittatus,* Vieillot.]

*111. G. OCCIPITALIS (J. 172).

Arakan, Tenasserim.

[Yey-tho, Tonghoo (*W. R.*); Thayet Myo (*O.*).]

[112. GECINUS ERYTHROPYGIUS.

Gecinus erythropygius, D. G. Elliot, N. Archiv. 1865, p. 76, pl. iii.; *G. erythropygius,* Wardlaw Ramsay, P. Z. S. April 21, 1874, p. 212, pl. xxxv. (*motu proprio*); *G. nigrigenis,* Hume, P. A. S. B. May, 1874, p. 106.

Foot of Karen hills, also at 600 feet, Tonghoo (*W. R.*); hills north of Pahpoon (*D.*).]

*113. CHRYSOPHLEGMA FLAVINUCHA (J. 173).

Chrysophlegma flavinucha (Gould); B. As. pt. i. pl. 5.

Arakan, Tonghoo.

[Yey-tho, Karen hills, Tonghoo (*W. R.*); Thayet Myo (*O.*); neighbourhood of Pahpoon (*D.*).]

*114. C. CHLOROLOPHUS (J. 174).

Khásias, Arakan, Tenasserim provinces.

[Tonghoo, Karen nee hills, at 3000 feet elevation (*W. R.*); Thayet Myo (*O.*).]

115. C. MENTALIS.

Picus mentalis, Temminck, P.C. 384.

Mergui, Malayan peninsula, Sumatra.

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* Proc. Zool. Soc. 1866, p. 539.

116. C. PUNICEUS.

Picus puniceus, Horsfield, Tem. P.C. 423.

Mergui, Malayan peninsula, Sumatra, Java.

[117. VENILIA PYRRHOTIS (J. 176).

Tonghoo hills (*W. R.*); Pahpoon (*D.*).]

*118. GECINULUS VIRIDIS.

Gecinulus viridis, Bl., J. A. S. B. xxxi. p. 341.

Upper Pegu.

[Tonghoo hills, at 2500 feet (*W. R.*); Pahpoon, Kyouknyat, Pahchaun, Ye, Meeta Myo (*D.*).]

*119. MICROPTERNUS PHAIOCEPS (J. 178).

Arakan, Tenasserim.

[Rangoon, Tonghoo (*W. R.*); Thayet Myo (*O.*). Malherbe's title of *rufinotus* must be adopted.]

*120. M. BURMANNICUS.

M. burmannicus, A. Hume, P. A. S. B. 1872, p. 71.

Thayet-myo.

[This is nothing but *M. rufinotus*, and has no claim to rank as a distinct species. Mr. Blyth had no opportunity of examining Thayet Myo examples.]

*121. MEIGLYPTES JUGULARIS.

Meiglyptes jugularis, nobis, J. A. S. B. xiv. p. 195.

Arakan, Tenasserim, Siam.

[Arakan and Pegu hills (*O.*). Included by Sundevall (*t. c.* p. 93, no. 4) among his *species dubiæ*, yet an undoubtedly distinct form.]

*122. M. TRISTIS.

M. tristis, Horsfield; Tem. P.C. 197, fig. 1.

Mergui, Pinang, Malacca, Sumatra, Java.

*123. DENDROTYPES MACEI (J. 157).

Arakan, Tenasserim, Malacca.

[Karen hills, at 3000 feet, Karen nee, at 4000 feet elevation (*W. R.*).]

*124. D. ATRATUS.

Picus atratus, nobis, J. A. S. B. xviii. p. 803, xxviii. p. 412.

Tenasserim mountains.

[Karen hills, at 3000 and 4000 feet. Iris, in male, dark brown; bill horny, mandible whitish; legs, greenish plumbeous (*W. R.*); pine forests north of Pahpoon (*D.*). An old male exhibits a carmine tinge on some of the pectoral feathers.]

125. D. ANALIS.

Picus analis, Horsfield; *Picus pectoralis*, nobis, J. A. S. B. xv. p. 15.

Tonghoo, where the occurrence of this Javanese species is remarkable.

[Tonghoo (*L.*); Karen nee (*W. R.*); Thayet Myo (*F.*). Identical with Javan examples.]

126. LIOPIPO MAHRATTENSIS (J. 160).

Picus blanfordi, nobis, J. A. S. B. xxxii. p. 75.

Tonghoo. As compared with specimens from Central India, those from Pegu have more of white on the plumage, but Viscount Walden informs me that in this respect they resemble others from Ceylon.

[Thayet Myo (*F.*); Tonghoo (*W. R.*).]

*127. YUNGIPICUS CANICAPILLUS.

Picus canicapillus, nobis, J. A. S. B. xiv. p. 197.

Khásias, Arakan, Tenasserim provinces. Common.

[Tonghoo, Karen nee at 4000 feet (*W. R.*); Thayet Myo (*F.*).]

128. VIVIA INNOMINATA (J. 186).

Picumnus innominatus (Burton); Gould, B. As. pt. xxii. pl. 13.

Tenasserim mountains.

[Karen hills at 2000 feet (*W. R.*).]

*129. SASIA OCHRACEA (J. 187).

Sasia ochracea, Hodgson; Gould, B. As. pt. xxii. pl. 14.

Arakan, Tenasserim.

[Tonghoo hills (*W. R.*).]

[130. S. ABNORMIS.

Picumnus abnormis, Tem., P.C. 371, fig. 3.

Stated by Mr. Hume (Str. Feath. ii. p. 472) to have been obtained by Mr. Davison near Ye.]

*131. IYNX TORQUILLA (J. 188).

Arakan.

[Karen nee (*W. R.*); Thayet Myo (*O.*).]

Fam. Cuculidæ.

Cuckoos.

132. Hierococcyx sparverioides (J. 207).

Arakan, Malacca.

[Rangoon, Yey-tho, Karen nee at 4000 feet (*W. R.*); Pahpoon (*D.*).]

133. H. varius (J. 205).

This species can hardly but occur, as also *H. nisicolor* (J. 206); but in the Malay countries they would seem to be replaced by *H. hyperythrus*, Gould,† of which *Cuculus fugax*, Horsfield, is the young bird. *H. varius* is common in the Dacca district of Eastern Bengal, and Jerdon gives it from "Burma and Malacca," but I do not remember to have seen a specimen from the eastern side of the Bay of Bengal.

134. Cuculus micropterus (J. 203) and C. affinis (J. 204).

These differ only in size, and have the same note *bhokatáko*, which I often heard in the vicinity of Moulmein during the rainy season, but did not obtain a specimen. Both races occur in Java, and *C. affinis* occurs both in Nipâl and the Malayan peninsula. Of necessity both of them must inhabit the Indo-Chinese countries. I have never seen a specimen of intermediate dimensions.

[Mr. Hume (Str. Feath. iii. p. 79) makes the important statement that the above numbers of Jerdon belong respectively to the male and female. If this be so, a hitherto much disputed question is satisfactorily settled.]

135. C. canorus (J. 199).

A specimen of this bird, in the plumage of immaturity, was shot in my presence, in the garden of the Commissioner, at Moulmein. Mr. Wallace obtained it in Timor.

[Karen nee at 3500 feet (*W. R.*); Prome (*Raikes*).]

136. C. striatus (J. 200).

C. striatus, Drapiez; Ibis, 1866, p. 359; 1872, p. 12.

The range of this Cuckoo extends from the Himálaya to China and

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* Mr. Hume gives *H. strenuus*, Gould, from Thayet Myo. P. A. S. B. 1872, p. 71. [The Thayet Myo example of the supposed Philippine *H. strenuus*, here alluded to, was nothing but *H. sparverioides*.]

† B. As. pt. viii. pl. 15.

N. Australia. I have seen two Tenasserim examples of it. *C. poliocephalus* can also hardly but occur, as examples from Java differ in no respect from others obtained in the Himálayas, Nilgiris, and mountains of Ceylon.

137. C. SONNERATII (J. 202).

Tenasserim provinces, Malayan peninsula and islands. As an Indian bird, I have only seen it from Malabar and Ceylon.*

[Thayet Myo (*W. R.*).]

*138. CACOMANTIS PASSERINUS (J. 209).

Cuculus passerinus, Vahl; *Polyphasia rufiventris,* Jerdon, Ibis, 1872, p. 15.

Arakan, Tenasserim, Siam, Hainan, Pinang. Replaced by a smaller race (*C. threnodes*) at Malacca.

[Thayet Myo, Yey-tho, Tonghoo, Karen nee (*W. R.*). *C. passerinus* is distinct from *C. rufiventris,* the correct title of the species Mr. Blyth refers to. While there is no record of *C. passerinus* ever having been found in Burma, *C. rufiventris* is there very common.]

*139. SURNICULUS LUGUBRIS (J. 210).

Arakan, Tenasserim, Siam, Pinang, Java.

[Tonghoo hills, Yey-tho, Karen nee (*W. R.*). Javan, continental, and Ceylon birds are identical.]

*140. CHRYSOCOCCYX MACULATUS (J. 211).

Cuculus malayanus, Raffles, apud Gray and Mitchell, Gen. Birds, pl. 117.

Arakan, Tenasserim. Mr. Gould distinguishes a smaller race (*C. schomburgki*) from Siam.†

[Tonghoo (*L.*).]

141. C. XANTHORHYNCHUS.

C. xanthorhynchus, Horsfield, Zool. Res. in Java, pl. —.

Procured by Helfer, probably in Mergui province, being the supposed new species of *Chalcites* noticed by Jameson (J. A. S. B. viii. p. 243). Malacca, Sumatra, Java, Philippines.

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* According to Lord Walden, the species "*Penthoceryx pravatus* (Horsfield), which inhabits Malacca, Sumatra, Java, and Borneo, is considerably smaller than *P. sonneratii* (Latham) of India and Ceylon." Ibis, 1872, p. 367. *Vide* admeasurements, *loc. cit.*

† P. Z. S. 1864, p. 73.

142. EUDYNAMIS CHINENSIS.

Eudynamis chinensis and *E. malayana*, Cab. Mus. Hein, iv. p. 52; Walden, Ibis, 1870, p. 339.

Nipâl, Tenasserim, Siam.

[Thayet Myo, Rangoon, Tonghoo (*W. R.*). *E. malayana* is the correct title. Malaccan individuals are identical.]

*143. COCCYSTES COROMANDUS (J. 213).

Cuculus coromandus (Linn.); Gould, B. As. pt. vi. pl. 3.

Arakan, Tenasserim, Siam, Malay countries generally.

[Thayet Myo, Rangoon (*W. R.*).]

144. C. JACOBINUS (J. 212).

This common African and Indian species abounds in Upper Pegu; but I have seen it from no other locality eastward of the Bay of Bengal.

[Thayet Myo (*W. R.*).]

145. PHOENICOPHAËS ERYTHROGNATHUS.

Phoenicophaës erythrognathus, Hartlaub, Verz. Brem. Samml. p. 95.

Tenasserim provinces, Malayan peninsula, Sumatra, Borneo.

146. ZANCLOSTOMUS JAVANICUS.

Phœnicophaus javanicus, Horsfield, Zool. Res. in Java, pl. —.

Tenasserim provinces, Malayan peninsula, Sumatra, Java.

147. Z. DIARDI.

Melias diardi, Lesson, Traite, p. 132.

Mergui, Pinang, Malacca, Sumatra.

*148. Z. TRISTIS (J. 215).

Arakan, Tenasserim, Siam, Cambodja, Hainan, Pinang, Malacca. A very common species.

[Rangoon, Tonghoo, Tonghoo hills, Karen nee (*W. R.*); Thayet Myo (*O.*).]

*149. CENTROPUS RUFIPENNIS (J. 217).

Generally diffused.

[Thayet Myo, Karen hills, Tonghoo (*W. R.*). Mr. Hume (Str. Feath. i. p. 454) has separated the race which inhabits the Doon, the neighbourhood of Dacca, and Thayet Myo, under the specific title of *C. intermedius*. These Burman examples bear out Mr. Hume's remarks, and may fairly be considered distinct from the common crow pheasant of Peninsular India.]

[150. C. EURYCERCUS.

C. eurycercus, A. Hay, J. A. S. B. 1845, p. 551.

Introduced by Mr. Hume in his list of birds of the Tenasserim provinces (Str. Feath. ii. p. 473), but without the exact locality being stated. Two distinct species seem to be included by him under the title. The smaller may possibly be *C. rectunguis.*]

*151. C. BENGALENSIS (J. 218).

Also generally diffused.

[Karen nee (*W. R.*).]

[152. RHINORTHA CHLOROPHÆA.

Cuculus chlorophæus, Raffles, Tr. L. S. xiii. p. 288.

Lemyne, Thayet-chaung, near Meeta Myo (*D.*).]

Fam. **Trogonidæ.**

Trogons.

153. HARPACTES HODGSONI (J. 116).

Harpactes hodgsoni; Ibis, 1866, p. 342; Gould, B. As. pt. xvii. pl. 1.

Arakan, Tenasserim.

[Karen nee at 4000 feet (*W. R.*); Thayet Myo (*F.*).]

*154. H. ORESCIUS.

Trogon oreskios, Tem.; Gould, B. As. pt. xvii. pl. 3; *Mon. Trogonidæ*, pl. 34; Beavan, Ibis, 1869, p. 407; P. Z. S. 1866, p. 538.

Arakan, Tenasserim provinces, Siam, Cambodja, Java.

According to Col. Tickell, *Harpactes hodgsoni* is "common on the hills from 3000 feet upwards. Below that it is replaced by *H. orescius.* It flies in small flocks, and is active and vociferous on the wing, solitary and quiet during the heat of the day, sitting in the shade."

[Karen hills (*W. R.*).]

Fam. **Caprimulgidæ.**

Night-jars.

*155. LYNCORNIS CERVINICEPS.

Lyncornis cerviniceps, Gould, *Icones Avium*, pt. ii. pl. 4. *Hgnet byeen*; *Tween-dweng-nghat.*

Generally diffused over the forest-region of British Burma, from Arakan to Mergui. It has recently been procured at Darjeeling. In Upper Martaban

I remarked that on their first appearance, towards evening, these superb Night-jars would seek their food high in the air, descending gradually within gunshot, and finally sweeping about close to the ground, in considerable numbers, as it became too dark to fire at them.

[Tonghoo (*L.*); Pahpoon (*D.*).]

*156. CAPRIMULGUS INDICUS (J. 107).

Generally diffused, extending southward to Malacca and Sumatra.

[157. C. JOTAKA.

C. jotaka, Tem. & Schlegel, Fauna Japonica, *Aves*, p. 37, pl. 12, 13.

Tonghoo (*L.*).]

*158. C. MACROURUS (J. 110).

Indo-Chinese and Malay countries generally, extending to N. Australia.

[Tonghoo (*W. R.*); Thayet Myo (*F.*). Tonghoo examples very much larger than typical Javan individuals. Wing, 8; tail, 7.]

*159. C. MONTICOLUS (J. 114).

Indo-Chinese countries generally, extending eastward to South China.

[Tonghoo (*W. R.*); Amherst, Yeboo, Pahpoon (*D.*).]

[160. C. ALBINOTATUS (J. 109).

Tonghoo (*W. R.*).]

*161. C. ASIATICUS (J. 112).

Arakan, Tenasserim, Siam. One or more species of *Batrachostomus* must needs occur, though as yet overlooked.* According to Mason, the Burmese call Night-jars *myæ-wot* (earth-crouchers), while the Arakan name for them is *Hgnet-byen* (outside-bird).

[Thayet Myo (*W. R.*).]

[162. BATRACHOSTOMUS HODGSONI (J. 106).

Otothrix hodgsoni, G. R. Gray, P. Z. S. 1859, p. 101, pl. 152.

"Karen nee, at 6000 feet. Iris, marbled buff; bill, light madder; legs, light madder, tinged with violet" (*W. R.*).

A male, in grey mottled plumage, and closely resembling the type.

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* Mason, however, gives *Podargus affinis*, Blyth, without mentioning any locality. Probably *Otothrix hodgsoni*, G. R. Gray, if the two really differ.

The other known species of this genus within the Indian region are:—

1. *B. javanensis*, Horsf. = *P. cornutus*, Tem. = *B. stellatus*, Gould. Malacca, Java, Borneo, Sumatra.

2. *B. affinis*, Blyth = *P. parvulus*, Tem. = *B. castaneus*, Hume. Borneo, Malacca, Darjeeling.

3. *B. moniliger*, Layard = *B. punctatus*, Hume. Ceylon, Malabar.

4. *B. stictopterus*, Cab. = *B. stellatus*, Gould, *ap.* Salvadori. Malacca, Borneo. I have some doubts whether this is not a phase of *B. javanensis.* In dimensions the two do not materially differ. The markings are similar, but the colouring is dark rufous brown, and not chestnut. I have never met with examples of this species, if it be one, or of *B. javanensis* in grey speckled plumage. But grey examples of *B. affinis* and *B. moniliger* are as common as rufous individuals.

5. *B. auritus*, Gould. Malacca. In rufous-brown, or in grey plumage, very common; but I have never met with it in chestnut plumage.]

Tribe CYPSELI.

Fam. Cypselidæ.

Swifts.

*163. ACANTHYLIS GIGANTEA (J. 96).

Cypselus giganteus, Hasselt; P.C. 364.

Arakan, Tenasserim, Andamans, Pinang, Nilgiris, Ceylon.

[Tonghoo (*L.*). *Chætura indica*, Hume, is synonymous.]

164. CYPSELUS PACIFICUS.

Hirundo pacifica, Latham; *C. vittatus*, Jardine and Selby, *Ill. Orn.* 2nd series, pl. 39; *C. australis*, Gould.

Upper Assam, Kachar, Tenasserim provinces, Pinang, China, Australia.

[Thayet Myo (*O.*).]

*165. C. PALMARUM (J. 102).

Pyan-hlwa, Mason.

The common Indian Palm Swift abounds in the Indo-Chinese countries, where also (though not hitherto detected within the limits of British Burma) must needs also occur the allied *C. infumatus*, Sclater (*C. tinus*, Swinhoe; *C. tectorum*, Jerdon),* which inhabits the Nága and Garo hills, was obtained by Mr. Swinhoe in Hainan, and was originally described by Mr. Sclater from Borneo. It is somewhat remarkable that *C. subfurcatus*, nobis,* has not hitherto been observed in the Indo-Chinese countries, though a resident species at Pinang. The allied western species (*C. affinis*), so common in India, is, however included by Mason.

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* Ibis, 1871, pl. x.; Gould, B. As. pt. xxiv. pl. 15.

[The title, *C. batassiensis*, J. E. Gray (Cuv. An. King. (Griffith), *Aves*, ii. p. 60, 1829), founded on Latham's *Balassian Swift* (Gen. Hist. vii. p. 329), takes precedence over *C. palmarum*, J. E. Gray (Hardw. Ill. Ind. Zoo. i. pl. 35, fig. 1, 1832).]

[166. C. INFUMATUS.

C. infumatus, Sclater, P. Z. S. 1865, p. 602.

Tonghoo (*W. R.*); very common in Upper Pegu (*O.*); common in Tenasserim (*Hume*).]

167. COLLOCALIA FUCIPHAGA (J. 103).

Hirundo fuciphaga, Thunberg; Wallace, P. Z. S. 1863, p. 384; Ibis, 1863, p. 323; 1866, p. 341; *C. linchi*, apud Ball, J. A. S. B. xli. pt. 2, p. 376.

Arakan, Tenasserim, Andamans.

"The Swiftlets which build the edible nests," remarks Mason, "are so numerous in the limestone caves on the islets and islands of the Tavai coast, that the Government revenue from the birds'-nest farm in 1847 was nearly eleven thousand rupees; but in 1849 it was more than four thousand rupees less. At Mergui they are not so numerous."

[As has been elsewhere shown (Ibis, 1874, p. 132), this Swift must take the title of *francica*, Gm. Mr. Wallace was the first author who published the opinion that examples from India, Ceylon, Bourbon, Mauritius, the whole of the Malay islands, the Louisiade Archipelago, New Caledonia, Tahiti, and the Marianne islands, do not specifically differ. That naturalist not considering the variations in size and slight variations in colouration which are to be found occurring sufficient to justify specific separation. Examples (*C. spodiopygia*) from Ovalau and Mango island (Fiji) can hardly be separated.]

168. C. LINCHI.

C. linchi, Horsfield; Wallace, P. Z. S.; *Voy.* "*Novara*," 1863, p. 384, Vögel, t. ii. f. 2.

Mergui Archipelago, Nicobars, Java, etc.

[This is the true *Hirundo fuciphaga*, Thunb.]

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* J. A. S. B. xviii. p. 807.

*169. Macropteryx coronatus (J. 104).

Hirundo coronata, Tickell; Gould, B. As. pt. xi. pl. 2.

Pegu, Siam. Replaced by *M. klecho* in the Malayan peninsula.

[Thayet Myo, Tonghoo, Karen nee, at 1700 feet (*W. R.*); Ngabeemah, pine forests north of Kollidoo, Henza Basin (*D.*).]

Suborder PASSERES.

Fam. **Corvidæ.**

Crows, Jays, etc.

*170. Corvus vaillantii (J. 660).

Corvus vaillantii, Lesson.

Arakan, Tenasserim, Malacca. Generally diffused in pairs throughout the forests.*

[Pegu (*O.*).]

*171. C. splendens (J. 663).

Kyie-gan.

At Akyab this Crow abounds, and also (as I was informed by Mr. W. T. Blanford) at Mandell, high up the Irawádi. At Khyouk Phoo, a party of seven individuals made their appearance on the 7th December, 1856, which subsequently stocked the neighbourhood; but to what extent the race may have spread at the present time I am unaware. Elsewhere in Arakan this Crow has still no representative; but across the mountains which divide that province from Pegu, again at Rangoon, Moulmein, Tavoy, and as far South as Mergui, as also in Siam, it is replaced by a wholly black race, quite similar in form and habit, but having a much shriller voice (a sort of *shrieking* caw), if possible still more inharmonious than that of the other. There is just a very faint tinge of ash-colour on the nape and breast, where the common Indian Crow is cinereous; but this must be specially looked for to be remarked. Though abundant about Mergui station, I have not seen it from any locality further south; and I have been assured that it does not occur at Pinang, Malacca, or Singapore. This melanoid race of *C. splendens* is erroneously referred to *C. culminatus* (i.e. *C. vaillantii*) by Mason, as it also is by the late Sir R. H. Schomburgk.[*] Sir A. Phayre, referring to it as the common Crow of the branches of the Irawádi, states that "away from the river, on the hills, there is a Crow of the same size, but not with the same tinge on the neck, being of an uniform black throughout."[†] As regards the Indian bird, an unknown donor has favoured me with two skins differing remarkably in size, but in no other respect. Length of closed wing 11 in. in the larger specimen, 10 in. in the smaller; of middle tail-feathers, respectively, 6½ in. and 5½ in; tarsus 1¾ in. and 1½ in. Some Ceylon specimens now (1872) living in the London Zoological Gardens are decidedly smaller, and rather darker coloured than Bengal or Akyab specimens; and I have seen other specimens from Ceylon, which again were darker coloured and approximately melanous [‡]

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* For variation of size in this species, *cf.* W. T. Blanford, J. A. S. B. li. pt. 2, p. 68.

[Rangoon, Tonghoo (*W. R.*). The melanoid variety referred to has recently been separated and named *C. insolens*, Hume (Str. Feath. ii. p. 480). The late Mr. G. R. Gray (H. List, ii. p. 14) restricted Vieillot's title of *splendens* (erroneously referring it to Temminck) to a supposed Javan and Sumatran species of *Corvus*, and adopted Hodgson's title of *impudicus* for the Indian. The type of *Le Choucas gris du Bengale*, *C. splendens*, Vieillot (N. D. viii. p. 441, 1817), came from the Indian continent, and no representative race even of that species is known as existing in either Java or Sumatra, Temminck's statement notwithstanding. *C. impudicus*, Hodgson, must continue, as hitherto, a synonym of *C. splendens*, Vieillot. Another curious variety of this Crow occurs in Tonghoo. Two examples of it are of an isabelline cream colour; the urapygium and abdomen being dark brown. I do not, however, propose to name it as belonging to a distinct species.]

Magpie Group.

172. PICA MEDIA.

Pica media, Blyth, J. A. S. B. xiii. p. 393; *P. sericea*, Gould; *P. caudata*, apud J. Anderson, Exped., p. 259.

Bhamŏ, China, Hainan, and Formosa.

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[*] Ibis, 1864, p. 252.

[†] J. A. S. B. xxii. p. 76, xxiv. p. 479.

[‡] Some time ago I received a packet containing two skins of *C. splendens*, coloured as in India. Wing, respectively 11 in. and 9½ in.; tail, 6½ and 5½ in.; beak to forehead 2 in. and 1¾ in. The latter are probably the admeasurements of the Ceylon race.

*173. Dendrocitta rufa (J. 674).

Common throughout the Irawádi valley, in Pegu (*Blanford*); also in the vicinity of Moulmein.

[Rangoon, Tonghoo, Yey-tho (*W. R.*); Thayet Myo (*F.*); Tenasserim provinces (*D.*).]

*174. D. himalayensis (J. 676).

D. himalayensis, nobis, Ibis, 1865, p. 45.

Mountains of Arakan, and probably those of the Indo-Chinese countries generally.

[Tonghoo hills, Karen nee (*W. R.*); north of Pahpoon (*D.*).]

*175. Crypsirhina varians.

Corvus varians, Latham; Lev. *Ois d'Afr.* pl. 56; *Phrenotrix temia*, Horsfield, Zool. Res. in Java, pl. —.

Prome, Bassein, common in the neighbourhood of Moulmein, Lower Siam, Java. I have never seen this species from the Malayan peninsula, though it is cited from Malacca by Herr v. Pelzeln, which I strongly suspect to be a mistake.

[Rangoon, Tonghoo, Yey-tho (*W. R.*); Tenasserim provinces (*D.*). The Malaccan habitat is certainly erroneous. This is another peculiar Javan species, which re-appears north of Province Wellesley. It has long since been compared and specifically identified with Javan individuals.]

*176. C. cucullata.

C. cucullata, Jerdon, Ibis, 1862, p. 20; Gould, B. As. pt. xv. pl. 3.

Thayet Myo, and the dry country above the British frontier. Not seen in Lower Pegu (*Blanford*).

[Thayet Myo (*W. R.*).]

[177. Temnurus leucopterus.

Glaucopis leucopterus, Tem. P. C. 265.

Meeta Myo (*D.*).]

*178. Urocissa magnirostris.

Psilorhinus magnirostris, nobis; Gould, B. As. pt. xiii. pl. 3.

Mountains of Arakan, Tenasserim, Siam.

[Tonghoo, Karen nee (*W. R.*).]

*179. CISSA SINENSIS (J. 673).

Coracias chinensis, Bodd.; Gould, B. As. pt. ix. pl. 8.

Arakan, Tenasserim provinces, China (?).

[Tonghoo, Karen hills (*W. R.*); Thayet Myo (*O.*).]

[180. GARRULUS LEUCOTIS.

G. leucotis, Hume, P. A. S. B. 1874, p. 106.

Tonghoo, Karen nee; very generally distributed both in the hills and in the plains of the Tonghoo province (*W. R.*).]

Fam. **Sturnidæ.**

Starling family.

Subfam. EULABETINÆ (True Mainas).

*181. EULABES INTERMEDIA (J. 693).

Gracula intermedia, A. Hay; cf. Stoliczka, J. A. S. B. xxxix. pt. 2, p. 327.

Arakan, Tenasserim provinces, Siam. The common "Hill Maina" of Northern India; that of the Andaman and Nicobar Islands now considered to be different.

[Rangoon, Tonghoo (*W. R.*). Perfectly distinct from *E. javanensis.*]

182. AMPELICEPS CORONATUS.

Ampeliceps coronatus, nobis, J. A. S. B. xi. p. 194, xv. p. 32; Gray and Mitchell, Gen. Birds, pl. 81.

Tonghoo, Yé, Mergui, Cochin China.

[Tonghoo (*L.*); South of Moulmein (*D.*).]

Subfam. STURNINÆ (Starlings, etc.).

*183. ACRIDOTHERES TRISTIS (J. 684).

Za-yet-mouk.

Arakan, Pegu, Tenasserim.

[Rangoon (*W. R.*); Thayet Myo (*O.*).]

*184. A. GINGINIANUS (J. 685).

Tenasserim provinces. Though common in Upper India, as remarked by Jerdon, "it certainly does not occur in Southern India, notwithstanding its specific name, taken from Gingi, south of Madras."

*185. A. FUSCUS (J. 686 *partim**).
Arakan, Tenasserim, Pinang, Malacca, Hainan.
[Rangoon, Tonghoo (*W. R.*).]

[186. A. SIAMENSIS.
A. siamensis, Swinhoe, P. Z. S. 1863, p. 303.

"Karen nee, at 3000 feet. Iris, pale chocolate; bill, orange-yellow; legs, dusky yellow" (*W. R.*).]

*187. STURNOPASTOR CONTRA (J. 683).
Sturnopastor contra, var. *superciliaris*, nobis, J. A. S. B. xxxii. p. 77.
Khásias, Thayet Myo, Tavoy, Siam.

About Tavoy it is particularly abundant, and, as Mason remarks, "is often seen perched on the back of the Buffalo, gathering insects."

[Tonghoo (*W. R.*).]

188. S. NIGRICOLLIS.
Gracula nigricollis, Paykull, Act. Holm. xxviii. pl. 9; *Pastor temporalis*, Tem.
Bhamo, Lower Siam, South China.

189. STURNIA BURMANNICA.
Sturnia burmannica, Jerdon, Ibis, 1862, p. 21; *Pastor peguanus*, Lesson, (?) the young (?).

Thayet Myo and Ava; more common above the British frontier than below it (*Blanford*).

[Tonghoo, Karen nee, Thayet Myo (*W. R.*). A sordid tawney-white albino variety of this species is among the Thayet Myo examples.]

*190. S. PAGODARUM (J. 687).
Arakan.

*191. S. MALABARICA (J. 688).
Arakan, Pegu, Tenasserim.

[This species does not appear to inhabit Upper Pegu, being replaced by the following.]

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* The true *A. mahrattensis* (Sykes), of South India, has been received at the London Zoological Gardens. It has the bill wholly yellow, white irides; a less developed frontal crest, and more of white tipping the middle tail-feathers. *A. leucocephalus*, a very distinct species, from Cochin China, is described in the Ibis, 1870, p. 185. Another allied species from Siam is distinguished by Mr. Swinhoe as *A. siamensis* (P. Z. S. 1863, p. 303).

192. S. NEMORICOLA.

S. nemoricola, Jerdon, Ibis, 1862, p. 22.

Thayet Myo.

[Rangoon, Tonghoo (*W. R.*). *T. leucopterus*, Hume (Str. Feath. ii. p. 480, note) appears to be synonymous.]

193. S. SINENSIS.

Oriolus sinensis, Gmelin; Pl. Enl. 617; *Pastor elegans*, Lesson, Bélanger, Voyage, pl. 6.

Pegu (*Lesson*); China.

[That this species winters in Pegu is suggested by Mr. Swinhoe (P.Z.S. 1871, p. 384), but the fact has yet to be established.]

194. CALORNIS DAURICA.

Turdus dauricus et *Gracula sturnina*, Gmelin; *Pastor malayensis*, Eyton; Pl. Enl. 627, fig. 2.

Mergui, Malacca, Dauria.

[This bird can hardly be placed in the genus *Calornis*. It is more nearly allied to the members of *Sturnia*. Its oldest specific title is *sturnina*, Pallas. It is difficult to decide what species is meant to be depicted in Pl. Enl. 627, fig. 2.]

195. C. AFFINIS.

C. affinis, A. Hay, J. A. S. B. xv. pp. 36, 369.

Tippera, Arakan, Nicobar Islands.

196. C. CHALYBEA.

Turdus chalybeus et *T. strigatus*, Horsfield; *T. insidiator*, Raffles, Tem. P.C. 199. figs. 1, 2.

Mergui, Malacca, Sumatra, Java.

[If the Mergui *Calornis* belongs to the Malaccan and Sumatran species, it must take the title of *insidiator*, Raffles, until it has been shown that the Javan *Calornis* belongs to the same species.]

[197. SARAGLOSSA SPILOPTERA (J. 691).

Karen hills at 2000 feet, Tonghoo (*W. R.*).]

Fam. **Ploceidæ.**

Weaver-Birds.

198. PLOCEUS JAVANENSIS.

Loxia javanensis, Lesson, Traité, p. 446.

Pegu, Siam, Java, Lombok. Observed by myself in Rangoon station.

[Rangoon, Tonghoo (*W. R.*); Thayet Myo (*O.*).]

*199. P. PHILIPPINUS (J. 694).

P. baya, nobis; *cf.* W. T. Blanford, J. A. S. B. xli. pt. 2, p. 167. *Tsa-ghaung-kwet.*

Arakan, Lower Pegu, Malacca, Sumatra, not Philippines. Attaches its pensile nests to the projecting thatch of dwelling-houses in Rangoon, as duly noticed by Jerdon.

[Rangoon, Tonghoo (*W. R.*); Thayet Myo (*O.*).]

*200. P. MANYAR (J. 695).

Arakan, Thayet Myo, Siam, Java.

201. P. BENGALENSIS (J. 696).

Thayet Myo, Ava.

Fam. **Astrildidæ.**

Waxbills, Amadavats, etc.

202. PADDA ORYZIVORA.

Loxia oryzivora, Lin.; Edwards, pl. 41.

The well-known "Java Sparrow" of British dealers in birds, which is extensively diffused over the Malay countries, was procured in Mergui province by Major Berdmore. Mr. Swinhoe notices it from Amoy, Hongkong, and Shanghai; but in the vicinity of those emporia it has probably escaped from captivity in the first instance, as it likewise has in that of Madras, in Madagascar, Zanzibar island, the Seychelles, St. Helena, Celebes, and the Philippines.

*203. MUNIA RUBRINIGRA (J. 698).

Arakan, Pegu, Tenasserim, South-west China. Common. Bornean specimens are similar to Indian and Burmese, having the black of the abdominal region and lower tail-coverts well developed; but this black is much reduced in quantity, and sometimes nearly obsolete, in examples from Malacca and Sumatra. In the race inhabiting Celebes (*M. brunneiceps*, Walden), the black beneath is well developed, while that on the head and neck is much embrowned. The race with white underparts, having the black abdominal patch and lower tail-coverts (Edwards, pl. 355), has never been observed eastward of the Bay of Bengal, but occurs rarely in Lower Bengal, and prevalently (if not wholly) in South India and Ceylon. *M. formosana*, Swinhoe,* is yet another of these very slightly differing races, for which names are barely admissible.

[Tonghoo (*W. R.*).]

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* Ibis, 1865, p. 356.

*204. M. PUNCTULARIA (J. 699).

Arakan, Pegu, Tenasserim, Siam. The true Indian race, as distinguished from the kindred *M. nisoria* (Tem.), which inhabits the Malayan peninsula, and has ash-coloured upper tail-coverts.

[Rangoon, Tonghoo (*W. R.*). The Burman spotted *Munia*, as represented by Mr. Ramsay's examples, belongs to *M. sub-undulata*, Godwin-Austen (J. A. S. B. xliii. p. 370, May 6, 1874), *M. superstriata*, Hume (Str. Feath. ii. p. 481, note, Oct. 1874), being a synonym.]

*205. M. ACUTICAUDA (J. 702).

Arakan, Tenasserim, Siam, Malacca, Sumatra, China, Formosa. This species is the *Fringilla muscardina* of the Leyden Museum, a systematic name which is adopted for it by Mr. Gould.* In Japan it is extensively bred, white, partially white, and of pale colouring.

[Tonghoo hills (*W. R.*); Thayet Myo (*O.*). I cannot find that Mr. Gould employed the title of *muscardina* in any part of the Z. S. Proceedings of 1859.]

*206. M. LEUCONOTA (J. 701).

Tau-tsa, "Forest Sparrow."

Arakan. Of general diffusion.

207. ASTRILDA AMANDAVA (J. 704).

Mason includes this species (the common Speckled Waxbill, Amadavat, or *Lál Muniá* of India) without remark; and Sir R. H. Schomburgk notices its occurrence in Siam, as also Mr. Gould (from specimens sent by Schomburgk).† "Many are brought to Bangkok for sale. They frequent the rice-fields and pastures, and go in flocks." I do not remember having seen Burmese specimens; but Jerdon notices that the range of the species extends to Assam and Burma, which Mr. W. T. Blanford assures me is the fact.

Fam. **Fringillidæ.**

True Finches.

Subfam. PASSERINÆ (Sparrows).

*208. PASSER INDICUS (J. 706).

P. domesticus, var. (?), Ibis, 1867, p. 41. *Ein-tsa* (House Sparrow).

Not uncommon at Akyab, but rare to the southward, in the jungle-clad provinces. Common, together with *P. montanus*, at Thayet Myo. Nubian specimens are undistinguishable.

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* P. Z. S. 1859, p. 150.

† P. Z. S. 1859, p. 150.

*209. P. MONTANUS (J. 710).

The common house Sparrow everywhere to the eastward of the Bay of Bengal, its range extending southward to the Malay countries, and eastward to China and Japan, Formosa, and the Philippines.

*210. P. ASSIMILIS.

P. assimilis, Walden, An. M. N. H. (4), v. p. 218.

Tonghoo.

*211. P. FLAVEOLUS.

P. flaveolus, nobis, J. A. S. B. xxxi. p. 344. *Passer jugiferus*, Tem., Bonap. Consp. Av. i. p. 508.

Arakan, Upper Pegu; "abundant in the bushes near Thayet Myo; also common further up the Irawádi" (*W. H. Blanford*). Doubtful as an inhabitant of the Philippines, as alleged of *P. jugiferus*, which I identified with the present species in the Royal Museum of Natural History at Leyden. According to Mason, this species "is found throughout the country," but he shows that he did not recognize *P. montanus* to be the common Sparrow of the country!

["Iris, in ♀, brown; bill above, pinkish brown, below somewhat paler; legs brownish. Karen nee" (*W. R.*). One example, a female, has the mandibles crossed as in *Loxia*, the maxilla to the left, the mandible to the right.]

Subfam. FRINGILLINÆ (Typical Finches).

*212. CARPODACUS ERYTHRINUS (J. 738).

Arakan.

[Tonghoo (*W. R.*).]

Subfam. EMBERIZINÆ (Buntings).

*213. EUSPIZA AUREOLA (J. 723).

Arakan, Pegu, Tenasserim, China. Occurs in large flocks in the interior, which migrate northward to breed.

[Tonghoo (*L.*). *Mirafra flavicollis*, McClell., as long since stated by Horsfield and Moore, is the female. *E. flavogularis*, Blyth, is also synonymous. In the H. List, No. 7679, McClelland's title is made to represent a distinct species, and that of Mr. Blyth is treated as a synonym of *M. flavicollis*.]

214. EMBERIZA RUTILA.

Emberiza rutila, Pallas; Tem. and Schl., Fauna Japonica, Aves, tab. 56B.

A single specimen procured by Mr. W. H. Blanford, near Bassein. Another since obtained at Sikhim.

[Tonghoo, Karen nee, Tsankoo hills (*W. R.*); neighbourhood of Pahpoon (*D.*).]

[215. E. FUCATA (J. 719).
Tonghoo, Thayet Myo, in winter (*O.*).]

[216. E. PUSILLA (J. 720).
Karen nee, at 5500 feet (*W. R.*).]

*217. MELOPHUS MELANICTERUS (J. 724).
Arakan, Pegu, Siam, South China.
[Karen nee (*W. R.*).]

Fam. **Alaudidæ.**

Larks.

*218. ALAUDA GULGULA (J. 767).

Sent from Arakan, where probably not common. It is likely to be so in Upper Burma.

219. ALAUDULA RAYTAL (J. 762).

"Abundant on the banks of the Irawádi, in Upper Burma, frequenting the sand-dunes, to the colour of which its own plumage closely approximates. During the height of the flood of the Irawádi, I observed it feeding on the roads and plains in the station of Thayet Myo in small parties" (*Jerdon*).

*220. MIRAFRA ASSAMICA (J. 754).
Arakan.

221. M. AFFINIS (J. 755).
Common at Thayet Myo (*W. H. Blanford*).
[*M. microptera*, Hume (Str. Feath. i. p. 483), is synonymous.]

Fam. **Motacillidæ.**

Wagtails and Pipits.

*222. CORYDALLA RICHARDI (J. 599).
Arakan.
[Tonghoo, Karen nee (*W. R.*); Pahpoon, Tavoy, Moulmein (*D.*).]

*223. C. RUFULA (J. 600).

Arakan, Tenasserim.

[Rangoon, Tonghoo (*W. R.*).]

*224. PIPASTES MACULATUS (J. 596).

Anthus maculatus, Hodgs.; Gould, B. As. pt. xvii. pl. 11; Fauna Japonica, Aves, pl. xxiii.

Arakan, Tenasserim. *Anthus agilis*, Sykes, is true *P. trivialis.*

[Karen nee hills, from 2000 to 5200 feet elevation (*W. R.*). Some eminent ornithologists decline to admit the specific distinction of *A. agilis*, *A. maculatus*, and the common European Tree Pipit. In the H. List, No. 3640, L. S. Müller's title of *plumatus* is adopted for the European bird. But as Linnæus published the twelfth edition of the Systema ten years before L. S. Müller bestowed the title cited, it is more in accordance with accepted practice to prefer the Linnæan title.]

*225. ANTHUS ROSACEUS (J. 605).

Arakan.

[226. A. CERVINUS.

Motacilla cervina, Pallas, Zoogr. Rosso-As. i. p. 511.

Examples obtained by Mr. Davison in Tenasserim are thus identified by Mr. Hume.]

*227. BUDYTES VIRIDIS (J. 593).

Motacilla cinereicapilla, Savi, N. Giorn. d. Lett. p. 190.

Arakan, Tenasserim. Bengal and Egyptian specimens quite similar.

[Rangoon, Tonghoo, Karen nee at 3000 feet elevation (*W. R.*).]

[228. B. CALCARATUS (J. 594).

A single immature example obtained at Pahpoon by Mr. Davison is thus identified by Mr. Hume.]

*229. LIMONIDROMUS INDICUS (J. 595).

Motacilla indica, Gm.; Gould, B. As. pt. xiv. pl. 13.

Arakan, Tenasserim, Malacca, China.

[Thayet Myo (F.).]

*230. MOTACILLA LUZONENSIS (J. 590).

Arakan, Tenasserim.

[Tonghoo (*W. R.*). The black-backed, white-faced species, is referred to under the above title. But strictly Sonnerat described the grey-backed bird. While Scopoli in his diagnosis, taken from Sonnerat, misquoted the description, and converted the word "grey" into black." The members of this section of the genus which inhabit Luzon have not hitherto been examined, and it therefore remains quite uncertain from what species Sonnerat described. It is not improbable that he did so from an Indian example of *M. dukhunensis.*]

[231. M. DUHUNENSIS (J. 591).
Tonghoo, Karen nee (*W. R.*); Pahpoon (*D.*).]

*232. M. BOARULA (J. 592).
Arakan, Tenasserim, Malacca.
[Rangoon (*W. R.*). Whether or not specifically distinct from *M. sulphurea* of Europe, this bird must take the title of *melanope,* Pallas.]

Fam. **Henicuridæ.**

Henicures.

*233. HENICURUS GUTTATUS (J. 584, *partim*).
Enicurus guttatus, Gould, P. Z. S. 1865, p. 664; B. As. pt. xviii. pl. 11.
East Himalaya, Khásias, Arakan.

*234. H. IMMACULATUS (J. 585).
Khásias, Arakan, Tenasserim.
[Thayet Myo (*O.*).]

*235. H. SCHISTACEUS (J. 586).
Arakan, where much less common than the preceding race; Tenasserim, China.
[Karen hills (*W. R.*).]

[236. H. LESCHENAULTI.
Turdus leschenaulti, Vieill. N. D. 20, p. 269.

This Javan and Foochow bird is stated by Mr. Hume to have been obtained in the neighbourhood of Pahpoon and at Meeta Myo. If the identification is correct, an interesting fact. It may perhaps be *H. frontalis.*]

Fam. **Brachyuridæ.**

Pittas.

*237. HYDRORNIS NIPALENSIS (J. 344).
Hydrornis nipalensis, Hodgson; Gould, B. As. pt. i. pl. 2.
Arakan, Tenasserim.

[238. H. OATESI.

H. oatesi, Hume, Str. Feath. i. p. 477.

"Karen nee, from 2500 to 4000 feet. Iris (male not quite mature), brown; bill, pale brown; legs, light fleshy pink. Iris (in adult female), brown; bill, dark vinous brown; legs, light fleshy pink" (*W. R.*).]

*239. BRACHYURUS CYANEUS.

Pitta cyanea, nobis, J. A. S. B. xii. p. 1008, xvi. p. 153; Gray and Mitchell, Gen. Birds, pl. 55; Gould, B. As. pt. i. pl. 2*a*; D. G. Elliot, Mon. Brachyuridæ, pl. xiii. *Myai-gnung.*

Arakan, Martaban; Tenasserim (*Helfer*).

[Karen hills, at 2000 feet. Iris, hair brown; bill, black; legs, fleshy (*W. R.*).]

*240. B. MOLUCCENSIS.

Turdus moluccensis, P. L. S. Müller; Elliot, Ibis, 1870, p. 413; Mon. Brachyuridæ, pl. iv.; *Pitta cyanoptera*, Temminck, P.C. 218.

Arakan, Tenasserim, Siam, Malacca, Sumatra, Java, Borneo, South China (Amoy). One specimen, received from Arakan, has the bill fully as large as in *B. megarhynchus* (Schlegel), from the Isle of Banka.*

[Rangoon (*W. R.*); Thayet Myo (*D.*). There is no evidence in favour of the Javan habitat attributed to this *Pitta* by Temminck. The size of the bill varies considerably.]

[241. B. MEGARHYNCHUS.

Pitta megarhyncha, Schlegel, Vog. Nederl. Ind. *Pitta*, p. 32, no. 8, pl. 4. fig. 2.

A well-marked species, hitherto known as being peculiar to the island of Banka, but stated by Mr. Hume (Str. Feath. ii. p. 475) to occur at Tavoy and Amherst in the months of May, June, and July.]

*242. B. CUCULLATUS (J. 346).

Nipâl, Khásias, Arakan, Malacca.

[Rangoon (*W. R.*); Thayet Myo (*F.*); Amherst (*D.*). Malaccan individuals are identical with Himalayan and Burman examples.]

Fam. **Turdidæ.**

Thrushes.

Subfam. TURDINÆ.

*243. MYIOPHONUS TEMMINCKII (J. 343).

Khásias, Arakan, Tenasserim.

[Karen hills (*W. R.*). *M. eugenei*, Hume (Str. Feath, i. p. 475) is synonymous. *M. temminckii* extends to Siam.]

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* Ibis, 1870, pl. xii.

[244. BRACHYPTERYX CRURALIS (J. 338).

Karen nee, 5000 feet (*W. R.*).]

[245. PNOEPYGA SQUAMATA (J. 329).

Karen nee, at 4000 feet (*W. R.*).]

*246. PETROCOSSYPHUS CYANEUS (J. 351).

Arakan, Tenasserim. Generally, but not always, with more or less of ferruginous colouring on the abdominal region, as in specimens from the East Himalaya. "In Burma," remarks Colonel M'Master, "this is the tamest and most confiding bird I have ever seen; it not only frequently enters the verandahs, but the inner rooms of houses, and is almost startling with its noiseless and uncanny familiarity. Whilst at Tonghoo, I had, every season, one or two of them about my house, so fearless, that they might almost have been handled. I saw one, in my verandah at Rangoon, kill and swallow a large scorpion."*

[Karen hills, from 2000 to 4000 feet (*W. R.*).]

247. MONTICOLA SAXATILIS.

Turdus saxatilis, L.; Pl. Enl. 562.

"Upper Burma, on the banks of the river near Ava."† "Summers on the Pekin mountains" (*Laird*).

*248. OROCOETUS CINCLORHYNCHUS (J. 353).

Arakan.

*249. GEOCICHLA CITRINA (J. 355).

Arakan.

[Tonghoo, Karen nee (*W. R.*); Thayet Myo (*O.*); neighbourhood of Ye and Amherst (*D.*).]

*250. TURDUS OBSCURUS.

Turdus obscurus, Gmelin; *T. pallens*, Pallas; *T. rufulus*, Drapiez; *T. modestus*, Eyton;‡ Fauna Japonica, Aves, pl. xxvii. *Myai-lu-hgnet.*

Khásias, Arakan, Andamans, Malacca, Java, Borneo, China, and North-East Asia, according to season.

[251. T. PALLIDUS.

T. pallidus, Gm. S. N. i. p. 815.

Karen nee, at 5000 feet in January (*W. R.*). Has also been received by Major Godwin-Austen from N. Cachar.]

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* J. A. S. B. xl. pt. 2, p. 211.

† *vide* Blanford, Ibis, 1870, p. 466.

‡ Not *T. javanicus*, Horsfield, which is the same as *T. fumidus*, S. Müller.

[252. T. sibericus.

T. sibericus, Pallas, Reise, Russ. Reichs, iii. p. 694, no. 10.

Karen nee, March 1, at 2500 feet. Iris (in female), rich brown; bill, black, slightly yellow at gape; leg, brownish yellow (*W. R.*).]

*253. Zoothera marginata.

Zoothera marginata, nobis, J. A. S. B. xvi. p. 141.*

Khásias, Arakan.

["Karen nee, from 1500 to 3000 feet. Iris (♂, ♀), dark brown; maxilla, dark brown, almost black; basal half of mandible, albescent; legs, brown with a tinge of pink; orbital skin, purplish" (*W. R.*).]

[254. Oreocincla mollissima (J. 370).

Karen nee, at 5000 feet (*W. R.*).]

[255. O. dauma (J. 371).

Thayet Myo (*Hume*).]

Subfam. ——

*256. Anthocincla phayrei.

Anthocincla phayrei, nobis, J. A. S. B. xxxi. p. 343.

One specimen procured in Tonghoo. [Pahpoon (*D.*).]

Subfam. Saxicolinæ (Wheatears, Robins, etc.).

*257. Cittocincla macroura (J. 476).

Arakan, Tenasserim, Malacca, Sumatra, Java. The Hainan race is smaller, according to Mr. Swinhoe.

[Rangoon, Tonghoo, Karen nee, at 1500 feet (*W. R.*).]

*258. Copsychus saularis (J. 475).

Gracula saularis, Lin.; Gould, B. As. pt. xv. pl. 5. *Tha-beik-lway.*

Arakan, Pegu, Tenasserim, Siam, South China.

[Rangoon, Tonghoo, Karen nee (*W. R.*).]

259. Myiomela leucura (J. 477).

Procured by Col. Tickell upon Moulè-it mountain, at an elevation of 5500 feet, being probably the same species as was obtained by Bélanger in Pegu, in which case, the kindred Javanese race (*Brachypteryx albifrons*,

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* *Z. monticola*, apud Godwin-Austen, J. A. S. B. xli. pt. ii. p. 142.

Boie)* is figured for it by M. Lesson, by the name *Notodela diana*, in the supposition of its being a more brightly coloured specimen of the same bird; the two species being very nearly allied. *M. leucura* has also been obtained in the Khásias.

[Karen nee (*W. R.*). In his text Lesson also describes the Javan bird, and there is nothing to show that he referred to any other species. The genus *Notodela*, of which *Lanius diana*, Lesson, is the type, must, therefore, merge in *Brachypteryx*.]

*260. RHYACORNIS FULIGINOSA (J. 505).
Arakan, Thayet Myo, China.†

[261. RUTICILLA AUROREA (J. 500).
Thayet Myo (*F.*).]

*262. CHÆMARRHORNIS LEUCOCEPHALUS (J. 506).
Arakan.

*263. CYANECULA SUECICA (J. 514).
Arakan.

*264. CALLIOPE CAMTSCHATKENSIS (J. 512).
Arakan.
[Karen nee (*W. R.*); Thayet Myo (*F.*); Pahpoon (*D.*).]

[265. LARVIVORA CYANE.
Motacilla cyane, Pallas, Reise Russ. Reichs, iii. p. 697, no. 18.
Pahpoon (*D.*).]

266. BRACHYPTERYX ——— (?).
From Zwagaben mountain, described by Lieut. Beavan.‡

267. OREICOLA JERDONI (J. 487).
Rhodophila melanoleuca, Jerd.; Gould, B. As. pt. xviii. pl. 11.

"Obtained only once, in long elephant-grass, in the northern portion of the Bassein district" (*W. H. Blanford*).

*268. PRATINCOLA FERREA (J. 486).
Arakan, Pegu, Tenasserim, South China.

[Tonghoo, Tonghoo hills, Karen nee, at elevations of from 2500 to 4000 feet (*W. R.*).]

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* Bonap. Consp. Av. i. p. 257.
† *R. aurorea* has been received both from the Khásias and the Malayan peninsula.
‡ Ibis, 1870, p. 321.

*269. P. CAPRATA (J. 481).

Lay-khya.

Arakan, Tenasserim, Java, Celebes, Lombock, Floris, Philippines, Timor.

[Tonghoo, Yey-tho, Karen nee, at 3500 feet (*W. R.*); Thayet Myo (*O.*).]

*270. P. INDICA (J. 483).

P. indica, nobis; Gould, B. As. pt. xv. pl. 12.

Arakan, Pegu, Tenasserim.

[Rangoon, Tonghoo (*W. R.*). It has been shown most conclusively by Mr. Dresser (B. Eur. Dec. 1873) that the Asiatic Stonechat cannot be specifically separated from the European. Mr. Blyth's title must therefore give way to that of *P. rubicola* (Lin.).]

271. P. LEUCURA (J. 484).

P. leucura, nobis; Gould, B. As. pt. xviii. pl. 12.

"Banks of the Irawádi, near Thayet Myo, and throughout Upper Burma. Common, and a constant resident" (*W. H. Blanford*).*

[Tonghoo (*L.*).]

Fam. Muscicapidæ.

Chat-flycatchers.†

272. NILTAVA GRANDIS (J. 316).

Chäitaris grandis, nobis; Gould, B. As. pt. ii. pl. 4.

Tenasserim mountains.

*273. N. SUNDARA (J. 314).

N. sundara, Hodgson; Gould, B. As. pt. ii. pl. 5.

Mountains of Arakan and Tenasserim.

[Karen nee, at 4000 feet (*W. R.*).]

[274. N. MACGRIGORIÆ (315).

Phœnicura macgrigoriæ, Burton; Gould, B. As. pt. ii. pl. 6; *Niltava vivida*, Hume, Str. Feath. ii. p. 475.

[Karen nee, at 3000 feet (*W. R.*); three days south of Pahchaun (*D.*).

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* Query *Saxicola hemprichii* (?), Ehrenberg, Symb. Phys., fol. *aa*. [The characters which distinguish *P. leucura* from *P. hemprichii* will be found stated by Mr. Dresser, B. Eur., *sub P. rubicola*.]

† These Chat-flycatchers, with mottled nestling plumage, intergrade much with the preceding subfamily.

Karen examples identical with Himalayan, etc. The Tenasserim bird has been separated under the title cited, from being "altogether brighter than the Himalayan species." No other character (?) is mentioned.]

*275. CYORNIS RUBECULOIDES (J. 304).

Arakan, Pegu, Tenasserim provinces.

[Rangoon, Tonghoo hills, Karen nee, from 600 to 2000 feet (*W. R.*). Many of my Burman examples, and also some from Ceylon, have the dark blue of the throat divided by the rufous colouring of the breast running up almost to the chin. Examples obtained in the neighbourhood of Pahpoon and Ye are identified by Mr. Hume as belonging to *Cyornis elegans* (Tem.); an identification, judging by his remarks (Str. Feath. iii. p. 104, *sub C. rubeculoides*), which requires confirmation. *Cf.* Walden, Ibis, 1872, p. 373.]

[276. C. TICKELLI (J. 305, 306).

C. tickelli, Blyth, J. A. S. B. 1842, p. 491.

Karen nee (*W. R.*).]

*277. SIPHIA STROPHIATA (J. 319).

Arakan, Tenasserim.

[278. S. ERYTHACA (J. 322).

S. erythaca, Blyth & Jerdon, P. Z. S. 1861, p. 201.

Karen hills, at 4000 feet (*W. R.*); pine forests north of Pahpoon (*D.*).]

*279. ANTHIPES MONILIGER (J. 317).

Arakan, Tenasserim.

[Karen nee, at 5000 feet (*W. R.*).]

*280. ERYTHROSTERNA MACULATA (J. 326).

Arakan, Tenasserim, Java.

[Karen nee, at from 3000 to 5000 feet (*W. R.*).]

*281. E. LEUCURA (J. 323).

Arakan, Pegu, Tenasserim, Hainan. Very common about Akyab in the cold season; obtained also at Bassein.

[Rangoon, Karen hills (*W. R.*).]

282. E. ACORNAUS? (J. 325).

Zwagaben.*

[Karen nee, at 2500 feet (*W. R.*). *E. sordida*, Godwin-Austen, is the female of some species of *Xanthopygia*, perhaps of *X. narcissina*, but from which the type slightly differs.]

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* Beavan, Ibis, 1870, p. 320.

*283. Eumyias melanops (J. 301).
Arakan, Tenasserim.
[Karen nee, at from 700 to 5000 feet; frequents rocky hills (*W. R.*).]

*284. Butalis latirostris (J. 297).
Arakan, Malacca, Sumatra, China.
[Tonghoo (*W. R.*); Pabyouk and Meeta Myo (*D.*).]

*285. B. sibiricus (J. 296).
Muscicapa sibirica, Gmelin; *cf.* W. E. Brooks, J. A. S. B. xli. pt. 2, p. 75.
Arakan.
[Tonghoo hills, Karen hills at 700 feet, in December, a young bird (*W. R.*).]

286. B. ferrugineus (J. 299).
Thayet Myo, Hainan, South China.

Fam. **Sylviidæ.**

Warblers.

*287. Arundinax aëdon (J. 518).
Arakan, Tenasserim, China.
[Tonghoo (*W. R.*).]

*288. Acrocephalus brunnescens (J. 515).
Arakan.
[Hemprich & Ehrenberg's specific title, *stentorea,* has precedence.]

*289. A. dumetorum (J. 516).
Arakan.

[290. A. bistrigiceps.
A. bistrigiceps, Swinh., Ibis, 1860 (January 1st), p. 51. *Salicaria maackii*, Schrenck, Amur Lande, i. pt. ii. p. 370, pl. 12, fig. 4–6 (June, 1860).
Tavoy (*D.*).]

[291. Neornis flavolivacea (J. 552).
A specimen obtained by Mr. Oates in Upper Pegu is doubtfully thus identified by Mr. Hume (Str. Feath. iii. p. 139).]

[292. N. ASSIMILIS.

Horornis assimilis, Hodgs. Cat. B. of Nipaul, Brit. Mus. 2nd ed. p. 143; Blyth, Ibis, 1867, pp. 21, 22; Godwin-Austen, J. A. S. B. 1874, p. 167.

Karen nee (*W. R.*). In all respects identical with Shillong, Naga hills, Assam, and Darjeeling examples, excepting that the entire under-surface is more decidedly tinged with pale sordid yellow. *N. assimilis* can be readily distinguished from *N. flavolivacea*, by its shorter wing and tail, weaker and much shorter bill, and by having the under shoulder-coverts pure sulphur-yellow.]

*293. PHYLLOPNEUSTE FUSCATUS (J. 555).

Horornis fulviventris, Hodgson, P. Z. S. 1845, p. 31.

Arakan, China.

[Yattoun (*O.*); Ye-boo, Pahpoon (*D.*).]

*294. P. BRUNNEUS.

P. brunneus, Blyth, J. A. S. B. xiv. p. 591; *P. maackii*, Schrenck; *cf.* Ibis, 1871, p. 109.

Arakan.

*295. P. MAGNIROSTRIS (J. 556).

P. borealis, Blasius, Naumania, 1858, p. 313; Ibis, 1871, p. 110.

Arakan, China.

[Mr. Hume (Str. Feath. ii. p. 478) includes *P. borealis* as a Tenasserim species, but omits *P. magnirostris.*]

*296. P. VIRIDANUS (J. 560).

P. schwartzi, Radde, Reisen, ii. p. 260, pl. ix. f. 1, a, b, c.

Arakan.

[Neighbourhood of Pahpoon (*D.*).]

[297. P. LUGUBRIS (J. 558).

Pahpoon (*D.*).]

[298. P. BROOKSI.

Phylloscopus brooksi, Hume, Str. Feath. ii. p. 505.

Pahpoon (*D.*).]

299. REGULOIDES TROCHILOIDES (J. 564).

Amherst.

[Karen hills, from 3000 to 4000 feet (*W. R.*); Tonghoo (L.); neighbourhood of Pahpoon (*D.*).]

*300. R. SUPERCILIOSUS (J. 565).

Arakan, Tenasserim.

[Tonghoo, Karen hills, from 700 to 2500 feet (*W. R.*).]

*301. R. PROREGULUS (J. 566).

Arakan.

[Pine forests north of Pahpoon (*D.*).]

302. R. VIRIDIPENNIS (J. 567).

Originally described from the Tenasserim hills, and since obtained plentifully at Darjeeling.

[Karen hills, from 2000 to 4000 feet (*W. R.*).]

[303. R. EROCHROA (J. 568).

Karen nee, Karen nee hills at 3000 feet (*W. R.*).]

*304. ABRORNIS XANTHOSCHISTUS (J. 572).

Arakan.

305. A. SUPERCILIARIS (J. 574).

A. superciliaris, Tickell, J. A. S. B. xxviii. p. 414.

Originally described from the Tenasserim hills, and since found to be common at Darjeeling.

[Tonghoo hills, Karen nee (*W. R.*).]

[306. A. CHRYSEA, n.s.

Above bright oil-green, two broad dark stripes springing from the forehead, passing over the head and descending down the sides of the neck, where they are almost black. A central single stripe thus formed on the head, yellowish-green. A broad stripe, springing near the nostril and passing over the eye, and thus bounding the dark stripe, bright yellow. Ear-coverts mingled black and green. Cheeks, chin, throat, thigh-coverts, under tail-coverts, shoulder-edge, under shoulder-coverts, and axillaries, bright canary-yellow. Breast paler yellow, shading to pale silky grey on the abdominal region and flanks. Quills light brown, edged externally with bright greenish yellow. Major wing-coverts tipped and edged with yellow. Rectrices like the quills, all but the middle pair being edged on their interior margins with very pale yellow. Maxilla brown; mandible pale straw-colour. Wing, 2; tail, 2·75; tarsus, 0·56; bill from forehead, 0·50. Karen hills, ♀ (*W. R.*).

I am not sure whether this is not *Reguloides fulviventer*, Godwin-Austen, a species founded on a carbolized example, in which the green and yellow may have become changed to grey, or altogether discharged.]

*307. CULICIPETA BURKII (J. 569).

Arakan.

[The generic title, *Cryptolopha*, Swainson, is synonymous and has precedence. The Arakan form may possibly belong to the following species.]

308. C. TEPHROCEPHALUS.

C. tephrocephalus, J. Anderson, P. Z. S. 1871, p. 213.

Bhămo.

["Iris, brown; bill, above brown, below yellowish; legs, pale greenish brown, Karen hills, at 3500 feet" (*W. R.*); neighbourhood of Pahpoon (*D.*). Dimensions of the bill in the specimen from the Karen hills equal to those of Darjeeling examples of *C. burkii*.]

Fam. Garrulacidæ.

Babblers.

*309. GARRULAX LEUCOLOPHUS (J. 407).

Khásias, Arakan.

*310. G. BELANGERI.

G. belangeri, Lesson, Bélanger's Voyage, Atlas, t. 4.

Tenasserim provinces.

The Himalayan *G. leucolophus*, the range of which extends to Arakan, the Tenasserim *G. belangeri*, the *G. diardi*, Lesson, = *G. leucogaster*, Walden, of Siam and Cochin-China, and the *G. bicolor*, Lesson, of Sumatra, are mutually representative races or conspecies, but which do not appear to grade into one another. Each in its own range abounds, and from its noisiness is the most prominently conspicuous bird in the forest.

[Tonghoo (*W. R.*); Thayet Myo (*F.*).]

311. G. STREPITANS.

G. strepitans, Tickell, J. A. S. B. xxiv. p. 269.

Tenasserim mountains, where common from 3000 to 5000 feet elevation (*Tickell*).

312. G. CHINENSIS.

Lanius chinensis, Scopoli, Del. Fl. Faun. Insubr. ii. p. 85; *Corvus auritus*, Daudin.

Tenasserim provinces, also South China. Obtained by myself in Upper Martaban, where observed associating with *G. belangeri*.

[Tonghoo. Iris (♂), lake colour; bill, black; legs, dusky brown (*W. R.*).]

313. G. PECTORALIS (J. 412).

Arakan. As remarked by Dr. Jerdon, "Specimens from the Himalayas have usually the ear-coverts silver-grey, whilst those from Arakan have them black and grey in every gradation." In some the pectoral band is wanting.

[Thayet Myo, Karen nee (*W. R.*).]

*314. G. MONILIGER (J. 413).

Arakan, Tenasserim. Very similar to the last, and therefore liable to be confounded with it; but it is smaller and conspicuously less robust.

[Rangoon, Thayet Myo, Yey-tho, Karen hills (*W. R.*).]

*315. G. ALBIGULARIS (J. 411).

Tavoy, Siam (*Gould*).

*316. TROCHALOPTERON MELANOSTIGMA.

Trochalopteron melanostigma, nobis, J. A. S. B. xxiv. p. 268.

Tenasserim mountains, where obtained by Colonel Tickell, "up to the vast wall-like crags of Moulè-it, 7500 feet."

[Karen nee. Iris (♂), deep chocolate; bill, black; legs, pale brown (*W. R.*).]

[317. ACTINURA RAMSAYI.

Actinura ramsayi, Walden, Ann. M. N. H. (4), 15, p. 402 (June 1st, 1875).

Karen nee, at 3500 feet. Iris (♂ ♀), light hair brown; bill, horny brown; legs, slaty brown (*W. R.*).]

*318. SIBIA MELANOLEUCA.

Sibia melanoleuca, nobis, J. A. S. B. xxviii. pp. 413, 451.

Moulè-it mountain, where obtained by Colonel Tickell. "Evidently exceedingly rare, or confined to elevated peaks. A pair only seen, of which the male was secured. Lively and restless, with a prattling whistle like that of *S. capistrata*." It is a conspecies with *S. capistrata* of the Himalaya, and *S. gracilis** of the Khásias.

[319. S. PICAOIDES (J. 430).

Karen nee, at 5000 feet (*W. R.*).]

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* J. A. S. B. xx. p. 521; xxvii. p. 422.

*320. GAMPSORHYNCHUS RUFULUS (J. 384).

Arakan, Tenasserim.

[The Tenasserim race has been separated by Mr. Hume under the title of *G. torquatus* (P. A. S. B. 1874, p. 107).]

321. PTERYTHRIUS ERYTHROPTERUS (J. 609).

Lanius erythropterus, Vigors; Gould, B. As. pt. viii. pl. 8.

Bhămo.*

322. P. ÆRALATUS.

P. æralatus, Tickell, J. A. S. B. xxiv. p. 267.

Tenasserim mountains, at 3500 to 4500 feet elevation.

[Karen nee hills, from 4000 to 5000 feet. Iris (♀), deep lavender; bill, above black, below lavender; legs, dull white; claws, dark brown (*W. R.*).]

*323. ALLOTRIUS MELANOTIS (J. 611).

Pteruthius melanotis, Hodgson; Gould, B. As. pt. viii. pl. 11.

Tonghoo.

Fam. Liotrichidæ.

[324. CUTIA NIPALENSIS (J. 612).

Karen nee, at 6000 feet (*W. R.*).

Sundeval (M. N. Av. Disp. Tentamen, p. 41) rejects the generic title *Cutia*, and adopts Hodgson's substituted title of *Heterornis*.]

[325. LIOPTILA ANNECTANS (J. 613).

Karen nee (*W. R.*).

The ferruginous colouring of the lower back, rump, and upper tail-coverts, in the example from Karen nee, is much darker than is observable in a numerous series from Darjeeling, Assam, and the Munipur hills.]

*326. LIOTHRIX LUTEA (J. 614).

Sylvia lutea, Scopoli; Gould, B. As. pt. iii. pl. 17.

Khásias, Arakan, South-west China.

*327. L. ARGENTAURIS (J. 615).

Mesia argentauris, Hodgson; Gould, B. As. pt. xiv. pl. 10.

Khásias, Tenasserim mountains.

[Tonghoo hills, Karen nee hills, from 1500 to 4000 feet (*W. R.*).]

* *vide* J. Anderson, Exped. p. 259.

[328. L. strigula (J. 616).
Tonghoo hills (*W. R.*).]

329. Siva cyanouroptera (J. 617).
S. cyanouroptera, Hodgson; Gould, B. As. pt. xiv. pl. 12.
Khásias, Tenasserim mountains.
[Karen nee (*W. R.*).]

[330. Minla castaneiceps (J. 619).
Karen nee, at 5200 feet (*W. R.*).]

331. Staphidea striata (J. 625).

Is this identical with *I. castaneiceps*, Moore, from the Khásias, and with *S. torqueola*, Swinhoe,* from China? Obtained by Col. Tickell on Moulè-it mountain at an elevation of 3000 feet.

[Distinct from *S. torqueola*, but doubtfully so from *S. castaneiceps*.]

*332. Yuhina gularis (J. 626).
Arakan.

[333. Proparus dubius.
P. dubius, Hume, P. A. S. B. 1874, p. 107.

Discovered by Mr. Davison in pine forests north of Pahpoon. *Query* =*Minla rufogularis*, Mandelli?]

Fam. ——— (?) †

*334. Herpornis xantholeuca (J. 630).

Khásias, Arakan, Tenasserim, Malacca. A very closely allied race from Hainan and Formosa is named *H. tyrannula*, by Mr. Swinhoe.‡

[Common in the Pegu hills (*O.*).]

Fam. Zosteropidæ.

*335. Zosterops palpebrosus (J. 631).
Sylvia palpebrosa, Tem.; P. Z. S. 1872, pl. xx. fig. 1.
Arakan, Tenasserim, Nicobar Islands.
[Karen hills (*W. R.*).]

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* Gould, B. As. pt. xxiii. pl. 14.

† [Title omitted in MS.]

‡ Ibis, 1870, p. 347, pl. 10.

336. Z. SIAMENSIS.

Z. siamensis, nobis, Ibis, 1867, p. 34.

Tenasserim mountains.

[Rangoon (*W. R.*).]

[337. *Z. austeni*, n.s.

Karen nee, at 2500 feet (*W. R.*).]

Above, dark uniform oil-green; underneath, light yellowish-green; almost pure yellow on chin, throat, and under tail-coverts. A shade of black below the eye. Quills dark brown, edged externally with the colour of the dorsal plumage. Shoulder-edge bright yellow. Axillaries and under shoulder-coverts white tinged with yellow. Rectrices hair-brown, narrowly edged externally with green. Wing, 2·6; tail, 1·50; tarsus, 0·50; bill, from forehead, 0·55.]

Fam. ——— (?).*

*338. MUSCITREA CINEREA.

Muscitrea cinerea, nobis; J. A. S. B. xvi. p. 122.

Arakan. A remarkable form, of which the affinities are not obvious. The only specimen became destroyed by insects.

[The type was obtained in the island of Ramree.]

Fam. **Paridæ.**

Titmice.

*339. MELANOCHLORA FLAVICRISTATA (J. 650).

Parus flavocristatus, Lafr.; Gould, B. As. pt. xx. pl. 15.

Arakan, Tenasserim mountains, Malacca, Sumatra. "One obtained at Kyodan, Salween river" (*Beavan*).

[Karen nee (*W. R.*). The specific title, *sultanea*, Hodgs., has precedence.]

[340. PARUS COMMIXTUS.

P. commixtus, Swinhoe, Ibis, 1868, p. 63.

Karen nee, at 3000 feet. Iris, hair brown; bill, black; legs, plumbeous (*W. R.*); pine forests north of Pahpoon (*D.*). Barely separable from Japanese examples of *P. minor*.]

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* [Title omitted in MS.]

[341. P. NIPALENSIS (J. 645).

P. nipalensis, Hodgson, Ind. Rev. ii. p. 31 (1838).

Thayet Myo (*F.*). The Indian species is now admitted to be distinct from the Javan, *P. cinereus*, and the title of *P. cæsius*, Tickell, has been adopted for it by Mr. Swinhoe. Where or when Tickell published this title I have failed in discovering, yet Jerdon certainly employs it as a synonym (*l. c.*).]

*342. MACHLOLOPHUS SUBVIRIDIS.

Parus subviridis, Tickell, J. A. S. B. xxiv. p. 267; xxviii. p. 413.

Tenasserim mountains, at 3500 feet elevation.

[This must still continue a doubtful species. It was founded on a single example, shot at an elevation of 3500 feet in the Tenasserim hills by Col. Tickell. A second individual (much injured) from Tenasserim was identified with it by Mr. Blyth (*l. c.*) four years later. Both appear to have been examples of *M. spilonotus* in immature plumage.]

[343. M. SPILONOTUS (J. 649).

Karen nee, at 3500 feet (*W. R.*).]

[344. ÆGITHALISCUS ERYTHROCEPHALUS (J. 634).

Parus erythrocephalus, Vigors, P. Z. S. 1831, p. 23.

Karen nee, 3000 feet (*W. R.*).]

Fam. **Sittidæ.**

Nuthatches.

345. SITTA NEGLECTA.

Sitta neglecta, Walden, Ann. M. N. H. (4), v. p. 218.

Tonghoo.

[Tonghoo, Yey-tho, Karen nee (*W. R.*).]

*346. DENDROPHILA FRONTALIS (J. 253).

Arakan, Tenasserim, Malay countries.

[Tonghoo, Karen nee, Tsanko hills (*W. R.*). Identical with examples from Ceylon, India, Java, and Borneo.]

[347. CERTHIA DISCOLOR (J. 245).

Karen nee, 5000 to 6000 feet (*W. R.*).]

Fam. Timeliidæ.

*348. POMATORHINUS HYPOLEUCUS.

Pomatorhinus hypoleucus, nobis, J. A. S. B. xiii. p. 319; xiv. p. 559; xxiv. p. 273; *P. albicollis*, Horsf., Gray and Mitchell, Gen. Birds, pl. 57.

Nipâl, Khásias, Arakan, Tenasserim.

[349. P. OCHRACEICEPS.

P. ochraceiceps, Walden, Ann. M. N. H. (4), 12, p. 487.

Tonghoo, Karen nee hills, at 2500 feet. Iris (♂), pale straw-yellow; bill, coral-red, with a marked tinge of orange; legs, greenish (*W. R.*).]

*350. P. SCHISTICEPS (J. 402).

Khásias, Tippera, Arakan.

[Upper Pegu (*O.*).]

*351. P. LEUCOGASTER (J. 403).

Khásias, Arakan, Tenasserim. This and the preceding species resemble each other in colouring; but *P. schisticeps* is altogether larger, and has proportionally longer and coarser bill and feet, with very much longer and straighter claws.

["Karen nee, at 3000 feet. Iris (♂) straw-yellow; bill, orange-yellow, black at nostrils; legs, slaty (*W. R.*).]

*352. P. PHAYREI.

P. phayrei, nobis, J. A. S. B. xvi. 452.

Sikhim, Tavoy, Khásias, Arakan.

*353. P. ALBIGULARIS.

P. albigularis, nobis, J. A. S. B. xxiv. p. 274.

This species and *P. hypoleucus* were procured by Colonel Tickell upon Moulè-it mountain, at from 5000 to 6000 feet elevation. According to Mason, it is very common in the province of Tavoy.

[354. P. MARIÆ.

P. mariæ, Walden, Ann. M. N. H. (4), 15, p. 403 (June 1st, 1875).

Tonghoo hills (*W. R.*).]

[355. P. ERYTHROGENYS (J. 405).

Pine forests north of Pahpoon (*D.*).]

*356. Timelia jerdoni (J. 396).

Timalia jerdoni, Walden, Ann. M. N. H. (4), x. p. 61; *T. bengalensis*, Godwin Austen.

"Upper Burma, where much more abundant than in Bengal, and less shy, affecting hedge-rows and villages, instead of the unfrequented grass jungles and thickets, in which alone it is seen in Bengal" (*Jerdon*).

Mr. W. T. Blanford informs me that he has Burmese specimens of intermediate size to *T. jerdoni* and *T. pileata*, Horsfield, rendering the propriety of their separation doubtful.

[Rangoon, Tonghoo (*W. R.*); Pahpoon, Yeboo (*D.*). The continental form must take the title of *T. bengalensis*, Godwin Austen (J. A. S. B. 1872, p. 143), which has priority over mine. As the specific validity of the species in no way depends on its dimensions, the information quoted has no bearing on the point. And this remark equally applies to Mr. Hume's observations (Str. Feath. iii. p. 118). The large series, from various parts, I have had opportunities of comparing with the Javan species, fully support Dr. Jerdon's, Major Godwin Austen's, and my own conclusions.]

*357. Mixornis rubicapilla (J. 395).

Motacilla rubicapilla, Tickell; Ibis, 1872, p. 376.

Arakan, Tenasserim.

[Karen nee (*W. R.*); both sides of the Pegu hills (*O.*).]

*358. Pellorneum ruficeps (J. 399).

Arakan, Tenasserim.

359. P. tickelli.

P. tickelli, nobis, J. A. S. B. xxviii. p. 414; *P. subochraceum*, Swinhoe, Ann. M. N. H. (4), 7, p. 257.

Tenasserim mountains.

[Rangoon, Tonghoo, Thayet Myo, Karen hills (*W. R.*).]

360. P. minor.

P. minor, A. O. Hume, Str. Feath. ii. p. 298.

Thayet-myo.

[A synonym of *P. tiekelli.*]

361. Turdinus crispifrons.

Turdinus crispifrons, nobis, J. A. S. B. xxiv. p. 269.

Tenasserim mountains.

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* Generically identical with *Caeopitta*, Bonap. (1850).

362. T. GUTTATUS.

T. guttatus, Tickell, J. A. S. B. xxviii. pp. 414, 450.

Tenasserim mountains.

363. T. BREVICAUDATUS.

T. brevicaudatus, nobis, J. A. S. B. xxiv. p. 272; Gould, B. As. pt. xxiv. pl. 9; *T. striatus*, Walden.

Khásias, Tenasserim mountains. These three species were discovered by Col. Tickell.

[364. DRYMOCATAPHUS FULVUS.

Drymocataphus fulvus, Walden, Ann. M. N. H. (4), 15, p. 401 (June 1st, 1875).

Karen nee, at 2500 feet (*W. R.*).]

365. TRICHOSTOMA ABBOTTI (J. 387).

Arakan (Ramri), Moulmein. This bird is barely separable from the (so-termed) *Brachypteryx sepiaria*, Horsfield, which is *Myiothera grisea* of the Leyden Museum, and *Malacopteron olivaceum*, Strickland. Its range extends to Eastern Bengal, and to the Nipâlese tarai.

[Rangoon, Tonghoo, foot of Karen hills (*W. R.*). Identical with examples from the Garo hills, from hills near Mymensing, from Dunapur, and from Dunsiri valley.]

[366. T. MINOR.

T. minor, Hume, Str. Feath. ii. p. 535.

Lemyne, Meeta Myo, Ye (*D.*). Judging by the description, a species of doubtful validity. But, if distinct from the Indian species, probably true *T. abbotti.*]

[367. T. RUBIGINOSA.

T. rubiginosa, Walden, Ann. M. N. H. (4), 15, p. 402 (June 1st, 1875).

Karen nee (*W. R.*).]

*368. ALCIPPE NIPALENSIS (J. 388).

A. phayrei, nobis, J. A. S. B. xiv. p. 601, wanting the dark sincipital stripes, is probably the young.

Arakan, Tenasserim. "Common, but local, in hilly jungles up to 4000 feet" (*Tickell*).

[369. A. MAGNIROSTRIS, n.s.

Karen nee hills, at 3000 feet (*W. R.*).

All the individuals obtained in the locality named differ from Darjeeling, Garo hills, and Naga hills examples, by wanting the grey-coloured cheeks and ear-coverts of *A. nipalensis,* and by having the tail brown and not rufous. All the dimensions are greater. Wing, 2·75; tail, 3; tarsus, 0·87.]

*370. STRACHYRHIS NIGRICEPS (J. 391).

Arakan, Tenasserim mountains. "In hilly forests, 3000 feet" (*Tickell*). *Timalia larvata,* S. Müller,* from Sumatra, is nearly akin and should be compared with it.

[Pegu hills (*O.*).]

[371. S. RUFICEPS (393).

Karen nee (*W. R.*); neighbourhood of Pahpoon (*D.*).

A single Karen nee example, in very indifferent order, appears to belong to this species.]

[372. S. RUFIFRONS.

S. rufifrons, Hume, Str. Feath. i. p. 479.

Pegu hills (*O.*).]

*373. S. CHRYSEA (J. 394).

S. præcognitus, Swinhoe.

Arakan, South China.

[*S. chrysea* is also stated by Dr. Jerdon to occur in Arakan, and in Mr. Blyth's manuscript the number of that species in Jerdon's Birds of India (394) is added to the title. But it is evident that *S. precognita,* Swinhoe, cannot be a synonym, for it is the name of a species nearly allied to, although distinct from, *S. ruficeps.* This last species was probably omitted by Mr. Blyth through accident, while to it he doubtlessly intended to add *S. precognita,* Swinhoe, as a synonym, and not to *S. chrysea.*]

[374. S. ASSMILIS, n.s.

Above cinereous olive-green. Feathers of the head yellow, with brown central streaks. Cheek and ear-coverts, pale brown tinged with yellow. Entire under surface, dilute yellow. Quills, brown edged externally with pale yellow. Rectrices, cinereous brown tinged with olive-green. Wing, 1·92; bill, from forehead, 0·56; tail, 1·92; tarsus, 0·58.

"Karen nee (♂, ♀) at 2800 feet of elevation. Iris (♂), lake; bill, lavender, pink at base of mandible; legs, brownish yellow; feet, greenish. Iris (♀), brown; bill, dark plumbeous, pinkish at base of mandible; legs, light greenish-brown" (*W. R.*).]

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* Bonap. Consp. Av. i. p. 217.

*375. Pyctorhis sinensis (J. 385).

"Very common in Upper Burma" (*Jerdon*). I noticed it abounding in the vicinity of Akyab.

[Karen nee (*W. R.*); Thayet Myo (*O.*).]

376. P. altirostris.

Chrysomma altirostre, Jerdon, Ibis, 1862, p. 22.

Common at Thayet Myo.

[This species has not been recognized since Dr. Jerdon described it thirteen years since. By some it is regarded as nothing but *P. sinensis*, a species thoroughly well known to Dr. Jerdon. But, moreover, he mentions (*l. c.*) that "it will probably be considered worthy of separation as a subgenus," and that it "makes an approach to the *Paradoxornis* group." In conversation Dr. Jerdon has asserted that it was a "good species."]

*377. Paradoxornis ruficeps (J. 375).

Paradoxornis ruficeps, nobis; Gray and Mitchell, Gen. Birds, pl. 94, fig. 1; Gould, B. As. pt. vi. pl. 12.

Received from Arakan, and the only species as yet received from any part of British Burma, though others may be expected to inhabit the same localities.*

[Karen nee, at 2500 feet (*W. R.*).]

[378. P. gularis (J. 374).

P. gularis, Horsf.; Gray and Mitchell, Genera of Birds, ii. pl. 94, fig. 2.

Karen nee, at 5600 feet (*W. R.*).]

Fam. **Megaluridæ.**

*379. Crateropus gularis.

Chatarhea gularis, nobis, J. A. S. B. xxiv. p. 478.

"The familiar garden-babbler of Thayet Myo, and still more abundant and familiar higher up the Irawádi, as Mr. W. J. Blanford informs me" (*Jerdon*).

[Thayet Myo (*W. R.*).]

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* *Suthora brunnea*, J. Anderson, P. Z. S. 1871, p. 211. Momien, Yunan. 4500 feet.

380. C. earlei (J. 439).

"Not rare at Thayet Myo, but confined entirely to the long grass and reeds on the islands and *churrs* of the Irawádi" (*Jerdon*).

*381. C. caudatus (J. 438).

Arakan, Thayet Myo. As this and the two preceding species are absolutely congeneric with sundry African species of undoubted *Crateropus*,* I can only refer them to that genus. It is remarkable that the true *Malacocerci*, so characteristic of India and Ceylon, have no typical representative in the countries eastward of the Bay of Bengal.

*382. Megalurus palustris (J. 440).

The range of this species extends from India, Assam, and Burma to Java and the Philippines. I do not remember to have seen it, however, in collections from the Malayan peninsula.

*383. Drymoeca longicaudata (J. 544).

Arakan.

[384. Drymoeca blanfordi, n.s.

Above brown (darkest on the head), with an olive-green tinge, which is in some very distinct on the rump. A dull, broad, albescent stripe springing from the base of the bill, and extending back over and beyond the eye. Ear-coverts mingled albescent and pale brown. Cheeks, wing lining, and all the lower surface of body yellowish white, faintly rufescent on flanks and thigh-coverts. Quills, brown externally, narrowly edged with olive-green. In some with an indistinct rufous shade. Rectrices, pale brown above; albescent underneath. All but middle pair with a bold subterminal brown transverse isolated mark. Middle pair with a faint indication of a dark terminal spot. (♂) Wing, 2; tail, 2·50; tarsus, 0·82; bill, from forehead, 0·58.

"Iris (♀), dark buff; maxilla, horny brown, mandible, pale; eyelids, yellowish brown; legs, dull white. Iris (♂), yellowish brown; bill, fleshy brown; eyelids, yellowish brown; Tonghoo" (*W. R.*).]

*385. Prinia flaviventris (J. 532).

Arakan, Tenasserim, Malacca.

[Rangoon (*W. R.*). The type of Delessert's species came from Bhootan. Assam (Tezpur) examples obtained by Major Godwin Austen agree with

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* *Cf.* Ibis, 1867, p. 6.

Delessert's diagnosis, the ear-coverts and the lores being grey; the superciliary region being dark coloured like the head. Sylhet individuals do not differ, but specimens from the Munipur hills, while otherwise undistinguishable, possess pure white lores continued into a bold pure white supercilium. Out of a large series obtained by Lieutenant W. Ramsay at Rangoon, one only has the lores and superciliary ridges pure white. All the other specimens being like the Assam and Sylhet birds. In my series of the Javan representative form, *P. familiaris*, one example only has white lores and supercilium. The presence of a white supercilium does not appear to indicate the sex, for all the Munipur birds whose sex had been determined are marked ♂, while the single Rangoon example with a white supercilium is noted a ♀, and the others, some ♂ and some ♀.]

*386. P. RUFESCENS.

P. rufescens, nobis, J. A. S. B. xvi. p. 456; *P. beavani*, Walden.

Arakan, Pegu.

[*P. beavani* is a distinct species. *P. rufescens* is a very rufous form of *P. gracilis.*]

[387. P. GRACILIS (J. 536).
Rangoon (*W. R.*); Pegu (*O.*); Kollidoo (*D.*).]

[388. P. HODGSONI (J. 538).
Rangoon, Karen nee (*W. R.*); Thayet Myo (*O.*).]

[389. P. BEAVANI.

P. beavani, Walden, P. Z. S. 1866, p. 651.

Yey-tho, Karen hills, at 2000 feet (*W. R.*); Thayet Myo (*O.*); Tenasserim (*D.*).]

*390. CISTICOLA SCHŒNICOLA (J. 539).
Arakan, Pegu, Hainan, South China, Formosa.

[391. HOREITES PALLIDIPES.

Phylloscopus pallidipes, Blanford, J. A. S. B. 1872, p. 162, pl. vii.

Pahpoon (*D.*).]

[392. H. SERICEA, n.s.

Above uniform, rather dark, brown washed with an olive tint, having in some lights a ruddy tone. Under-surface of body and wing-lining silky white, the flanks, thigh-coverts, and under tail-coverts sullied with pale brown. Cheeks and ear-coverts mixed pale brown and white. Space before the eye and superciliary ridges, sordid white. Quills and rectrices brown, edged with the colour of the upper plumage. Wing, 2; tail, 1·75; tarsus, 0·68; bill, from forehead, 0·60.

"Iris (♀), dull brown; bill, yellow; legs, fleshy white. Karen hills" (*W. R.*).]

[393. SUYA CRINIGERA (J. 547).
Thayet Myo (*O.*).]

[394. S. ERYTHROPLEURA, n.s.
Male, above rufous brown, the base of the feathers being ash. On the lower back and upper tail-coverts the rufous hue predominates. Space before the eye, dark brown. A white line, springing from near the nostril, passes back over and behind the eye. Ear-coverts, cheeks, chin, throat, breast, abdomen, and wing-lining, creamy white, strongly suffused with rufo-fulvous. Flanks, thigh-coverts, and under tail-coverts bright ferruginous. Quills, brown edged with ferruginous. Rectrices like the back.

(♂) Wing, 1·87; tail, 4·87; tarsus, 0·88; bill, from forehead, 0·65. Tonghoo (*W. R.*).]

*395. ORTHOTOMUS LONGICAUDA (J. 530).

Of general occurrence, extending eastward to South China and Formosa, and southward to Singapore.

[Tonghoo, Karen nee (*W. R.*); Thayet Myo (*O.*); Tenasserim (*D.*). The Ceylon and Indian Tailor-bird must stand *O. sutorius* (G. R. Forster), Zool. Ind. p. 17 (1781), even if it be considered identical with the South China species, *Muscicapa longicauda*, Gm. = *O. phyllorrhaphæus*, Swinh., which it appears to be.]

*396. O. EDELA.

O. edela, Tem., P.C. 599, fig. 2.

Tavoy, Siam (*Gould*). According to Mason, "Tailor-birds are very common at Tavoy, though rare at Moulmein." He is not likely to have discriminated the particular species.

[I am not certain which species is intended by Mr. Blyth. The authority of Mr. Gould is quoted for the occurrence of this Javan race of the common Indian Tailor-bird at Tavoy and in Siam. The Javanese *O. edela* and the Indian *O. sutorius* are barely separable, the Javan being chiefly distinguished by having the lores and superciliary stripe pale ferruginous, and not greyish-white. All the Burman examples, and those from Siam, I have been able to examine, belong to *O. sutorius*. Formerly Mr. Blyth mistook the more recently described *O. flavi-viridis*, Moore, for *O. edela*, and Moore's species does occur in Burma.]

[397. O. FLAVI-VIRIDIS.

O. flavi-viridis, Moore, P. Z. S. 1854, p. .

Rangoon (*W. R.*).

The description of *O. nitidus*, Hume, agrees well with this species, before the grey throat and black breast-feathers have been assumed. Mr. Hume's specimens were obtained at Pahpoon, Kyouknyat, and Thayetchaun.]

[398. O. CORONATUS (J. 531).

Tsan koo hills, at 3000 feet (*W. R.*).]

[399. LOCUSTELLA LANCEOLATA.

Sylvia lanceolata, Tem., Man. d'Orn. iv. p. 614; *Locustella subsignata*, Hume; *cf.* Dresser, B. Eur. parts 35 and 36.

Yeboo (*D.*).]

Fam. **Laniidæ.**

Shrikes.

*400. LANIUS TEPHRONOTUS (J. 258).

Arakan.

[Kyouknyat (*D.*).]

*401. L. NIGRICEPS (J. 259).

L. nigriceps, Frankl.; Gray and Mitchell, Gen. Birds, pl. 71.

Arakan, Siam.

[Tonghoo (*W. R.*); neighbourhood of Pahpoon (*D.*).]

402. L. CRISTATUS (J. 261).

Arakan.

[Rangoon, Karen nee (*W. R.*); Thayet Myo (*O.*); Tenasserim (*D.*).]

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* *vide* Lord Walden, "On the Rufous-tailed Shrikes," Ibis, 1867, p. 212. Mason includes *L. tigrinus*, Drapiez, but I know not on what authority.

403. L. COLLURIOIDES.

L. collurioides, Lesson, Voyage Bélanger, p. 250; *L. hypoleucus*, nobis, J. A. S. B. xvii. p. 249.

Pegu, Martaban, Tenasserim provinces, Siam. "Thayet Myo and Ava in cold season only" (*W. T. Blanford*).

[Rangoon, Tonghoo, Thayet Myo, Karen nee (*W. R.*).]

*404. TEPHRODORNIS PELVICA (J. 263).

Arakan, Tenasserim, Hainan.

[Karen hills (*W. R.*); Thayet Myo (*O.*).]

*405. T. PONTICERIANA (J. 265).

Pegu.

[Tonghoo (*W. R.*); Thayet Myo (*O.*).]

*406. HYLOTERPE PHILOMELA (J. 266).

Arakan, Pinang, Java, Borneo, Andaman Islands.

[Must stand *Hyloterpe grisola* (Blyth). *Hylocharis occipitalis*, Hume, Str. Feath. ii. p. 202, is synonymous.]

407. HEMIPUS OBSCURUS.

Muscicapa obscura, Horsfield; *M. hirundinacea*, Reinwardt.

Mergui.*

[408. H. PICATUS (J. 267).

Muscicapa picata, Sykes, P. Z. S. 1832, p. 85.

Tonghoo, Karen nee, at 1500 feet, Tsan koo hills (*W. R.*); Thayet Myo (*O.*); Pahpoon (*D.*). All the examples sent to me by both Major Lloyd and Lieutenant Wardlaw Ramsay, from the Tonghoo province, belong to the South Indian and Ceylon species. But Mr. Blyth seems to be correct in his opinion that the Assam bird, *M. capitalis*, is a distinct species. All the examples of the male I have seen from Darjeeling, Assam, and the Naga hills, have the back brown, and the head alone black (*cf.* Blyth, Ibis, 1866, p. 368; Jerdon, *op. cit.* 1872, p. 116; and compare Hume, Str. Feath. 1873, p. 435; 1875, p. 93). Young males in both species wear the female dress. The young *H. picatus* in transition plumage, before assuming the full black dorsal garb, shows brown on the back. *H. capitalis*, ♂, when adult, retains the brown colouring on the back]

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* Mason also gives *M. picatus*, meaning doubtless *M. capitalis* (cf. Ibis, 1866, p. 368).

Fam. Graucalidæ.

*409. Graucalus macei (J. 270).

Arakan, Tenasserim.

[Rangoon, Tonghoo hills, Karen nee from 2500 feet to 4000 feet (*W. R.*); Thayet Myo (*F.*).]

*410. Volvocivora avensis.

Volvocivora avensis, nobis, Catal. p. 327; *C. melanoptera*, nobis, J. A. S. B. xv. p. 307.

Common in Arakan.

[Rangoon, Tonghoo, Thayet Myo, Karen nee (*W. R.*); Pabyouk, near Amherst (*D.*).]

*411. V. sykesi (J. 268).

Upper Pegu.

[412. V. melanoschistus (J. 269).

V. melaschistos, Hodgson, Ind. Rev. i. p. 328 (1836).

Examples obtained at Pahpoon, Pabyouk, Ye-boo, and Ye, by Mr. Davison, are thus identified, with doubt, by Mr. Hume (Str. Feath. ii. p. 474).]

*413. Pericrocotus speciosus (J. 271).

Turdus speciosus, Lath.; Gould, B. As. pt. ix.; *P. rutilus*, Gould; *P. fraterculus*, Swinhoe; *P. andamanensis*, Tytler. *Hgnet-men-tha* ♂, *hgnet-men-thamie* ♀ ("Prince and Princess Bird," Mason).

Arakan, Tenasserim, Andaman Islands, Khásias, Siam; and Hainan (*Swinhoe*). Mr. V. Ball remarks of this species that "the amount of red on the central tail-feathers varies much in specimens from various parts of India and Burma." Four out of five males from the Andamans have the central tail-feathers wholly black. The specimens in Lord Walden's collection from India have black middle tail-feathers, while in those from Burma the outer web is red. Others sent by Mr. Swinhoe as *P. fraterculus* do not appear to be separable.

[Tonghoo, Karen nee (*W. R.*); Thayet Myo (*O.*). Out of a numerous series from Tonghoo and its vicinity only one male has the middle pair of rectrices completely black; while in all the females, without exception, they are entirely black. Some Assam examples have the middle pair black.]

*414. P. brevirostris (J. 273).

Phœnicornis brevirostris, Vigors; Gould's Century, pl. 8.

Arakan.

[Karen nee, at 3000 feet (*W. R.*); pine forests north of Pahpoon (*D.*).]

*415. P. ROSEUS (J. 275).

Muscicapa rosea, Vieillot; Gould, B. As. pt. ix. pl. —

Arakan.

[Tonghoo (*W. R.*); Pahpoon (*D.*).]

*416. P. PEREGRINUS (J. 276).

Parus peregrinus, Linn.; Gould, B. As. pt. ix. pl. —

Arakan, Tenasserim. Common; some of the males very brightly coloured, and appearing to grade into *P. flagrans*, Boiè, of the Malayan peninsula, Sumatra, and Borneo. Mr. V. Ball remarks that "Andaman specimens correspond to the darker-plumaged variety of this bird from Madras and Ceylon, from one of which Gould's figure is taken."

[Tonghoo (*L.*); Karen nee (*W. R.*); Thayet Myo (*F.*).] *P. flagrans*, Boiè, in no way resembles *P. peregrinus*, otherwise than by its small dimensions. It is a diminutive form of *P. ardens*, Boiè, which, in its turn, is a small form of *P. speciosus.* The female of *P. flagrans* is yellow and grey, as in the other two species. *P. peregrinus* is a distinct type, and has no known representative in any part of the Malayan sub-region.]

*417. P. ALBIFRONS.

P. albifrons, Jerdon, Ibis, 1863, p. 20.

Thayet-myo. An interesting "double" of the Indian *P. erythropygius.*

[Tonghoo (*L.*); Thayet Myo (*O.*).]

Fam. **Pipridæ.**

Manakins.

*418. CALYPTOMENA VIRIDIS.

Calyptomena viridis, Raffles; Horsfield, Zool. Res. in Java, pl.; Stoliczka, J. A. S. B. xxxix. pt. 2, p. 284.

Tenasserim mountains.*

"These birds resort to dense thickets when alarmed, but will sally out to feed on fruits (wild figs), and they mingle with Barbets and other birds while so doing. The note is low and sweet—a low whistle. Like the *Eurylaimi*, they are tame and stupid" (*Tickell*). Helfer also procured this species in the Tenasserim provinces.

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* *vide* J. A. S. B. xiii. p. 213; Tickell, *op. cit.* xxiv. p. 279.

Fam. **Eurylæmidæ.**

Broadbills.

*419. SERILOPHUS RUBROPYGIUS (J. 139).

Raya rubropygia, Hodgs.; Gould, B. As. pt. v. pl. —

Arakan, Khásias, S. E. Himalaya.

*420. S. LUNATUS.

S. lunatus, Gould; B. As. pt. v. pl. —

Tenasserim provinces. "These birds are much better flyers than the *Eurylaimi.* I found them once in a flock, like Titmice, but very high up" (*Tickell*). Dr. Helfer states, in his MS. notes quoted by Mr. F. Moore, "that he observed this bird in societies of thirty or forty, upon the loftiest trees in the forests in the Tenasserim provinces; and that they are so very fearless that the whole flock can be shot down one after the other." He only observed them on one occasion.

["Iris, iridescent green and brown; bill, turquoise blue, paler towards the tip; region of nostrils, gape, and under surface of basal half of mandible, orange; legs, orange-green; claws, bluish-white" (*W. R.*). Karen hills, 30 miles north of Tonghoo (*L.*); Karen nee, at 3000 and 4000 feet (*W. R.*); Pahpoon, Amherst, Om-ben-gwen (*D.*).]

421. CORYDON SUMATRANUS.

Coracias sumatranus, Raffles; Gould, B. As. pt. v. pl. —

Tenasserim provinces, Malacca, Sumatra, Borneo. "A singular and rare bird; crepuscular (very likely diurnal as well), and so stupid and tame as to allow itself to be pelted without moving" (*Tickell*).

[Karen hills (*W. R.*).]

*422. EURYLÆMUS JAVANICUS.

Eurylæmus javanicus, Horsf.; Gould, B. As. pt. v. pl. —

Tenasserim provinces, Malayan peninsula, Sumatra, Java, Borneo. "Not common, at least it is not often seen, being very quiet and secluded, though excessively tame, and not crepuscular like *Corydon*" (*Tickell*).

[Tonghoo hills (*L.*).]

423. E. OCHROMELAS.

E. ochromalus, Raffles; Gould, B. As. pt. v. pl. —

Tenasserim provinces, Malayan peninsula, Sumatra, Borneo.

424. CYMBORHYNCHUS MACRORHYNCHUS.

Todus macrorhynchus, Gm.; Gould, B. As. pt. v. pl. —

Bassein, Tenasserim provinces, Siam, Malayan peninsula, Sumatra, Borneo.

[Count Salvadori has recently (Atti R. Ac. Sc. Torino, ix. p. 421) restricted Latham's Great-billed Tody to Sumatra and Borneo, also to Java, but with a doubt, and has separated the Malayan Broadbill under a new title, *C. malaccensis* (*t. c.* p. 425). True *C. macrorhynchus*, according to the Count, has a black and unspotted tail; whereas the Malayan bird, on the three outer pairs of rectrices, has, towards the apex, and on the inner webs, a white oblique spot. In the Malaccan bird this is so, and Sumatran examples will more probably be found to agree with the Malaccan rather than with the Bornean. But to which race Latham's type, contained in the Leverian Museum, belonged, Count Salvadori does not make quite clear. Latham's type, however, is, as the Count mentions, and as Herr von Pelzeln has told us (Ibis, 1874, p. 19), extant in the Vienna Museum. We may therefore assume that the Count, with his accustomed accuracy, has satisfied himself on the point.]

*425. C. AFFINIS.

C. affinis, nobis, J. A. S. B. xv. p. 312; Gould, B. As. pt. 5, pl. —

Arakan (Ramri), Tavoy (*Gould*), Siam, and Cambodja (*G. R. Gray*).

*426. PSARISOMUS DALHOUSIÆ (J. 138).

Eurylaimus dalhousiæ, Jameson; Gould, B. As. pt. v, pl. —

Arakan, Tenasserim, Sumatra. "On the table-land of Cherra Punji," remarks Mr. Frith, "flocks of this bird often ascend, while, as they fly about from garden to garden, the native boys hunt them by intercepting and turning their flight away from the gardens, when they are soon fatigued and easily caught with the hand" (J. A. S. B. 1855, p. 279, note).

[Karen hills, at 3000 feet (*W. R.*). I can find no record of a comparison having been made between this species and Sumatran *E. psittacinus*, S. Müll.]

Fam. **Hirundinidæ.**

Swallows.

*427. HIRUNDO RUSTICA (J. 82).

Mostly of the smaller eastern race (*H. gutturalis*, Scopoli), but I think not exclusively so. Arakan, Tenasserim.

[Tonghoo (*W. R.*); Thayet Myo (*O.*).]

[428. H. TYTLERI.

H. tytleri, Jerdon, B. Ind. iii. p. 870.

Thayet Myo (*O.*); Tavoy (*D.*).]

[429. H. HORREORUM.

H. horreorum, Barton, Fragm. N. H. 1799, p. 17.

Tonghoo (*W. R.*). Undistinguishable from Californian examples.]

[430. H. FILIFERA (J. 84).

Pahpoon (*D.*).]

*431. CECROPIS ERYTHROPYGIA (J. 85, *partim*).

Hirundo erythropygia, Sykes; Gould, B. As. pt. xx. pl. 10; Ibis, 1866, p. 337.

Common in parts of the jungles, at least during the northern winter.

[432. C. STRIOLATA.

Hirundo striolata, Tem., Faun. Japonica, p. 33.

Karen nee, at 2600 feet, in March; Karen hills, at 3000 feet, in January (*W. R.*). Identical with Flores, Formosan, and Chinese examples. Quite distinct from *C. erythropygia*, which is barely separable from *C. rufula.*]

433. CHELIDON URBICA (J. 92).

Col. Tickell writes: "There are great numbers here" (at Moulmein) "in the season; and I have also seen large flocks of them in India, but they appear from time to time, not constantly, as does *H. rustica.*"*

*434. COTYLE SINENSIS (J. 89).

Common along the rivers, where it holds the place of *C. riparia* in Europe.

[Tonghoo (*W. R.*); Pahpoon (*D.*). *C. obscurior,* Hume, Str. Feath. iii. p. 43, is founded on a single indifferent specimen of a species of *Cotyle* obtained at Thayet Myo by Mr. Oates.]

Fam. Artamidæ.

Clusterers.

*435. ARTAMUS FUSCUS (J. 287).

Arakan, Tenasserim, Siam, Hainan. In the Andamans and Nicobars, *A. leucorhynchus* (Lin.) replaces it.

[Tonghoo, Thayet Myo, Karen hills (*W. R.*).]

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* J. A. S. B. xxiv. p. 809.

Fam. **Dicruridæ.**

Drongos.

*436. CHIBIA HOTTENTOTA (J. 286).

Arakan.

[Tonghoo, Karen hills (*W. R.*); Pahpoon, Moulmein (*D.*).]

*437. BHRINGA REMIFER (J. 283).

Arakan, Tenasserim.

[Tonghoo, Karen hills (*W. R.*); Thayet Myo (*O.*). The Burman examples, as well as Indian, are not separable from the Javan.]

*438. CHAPTIA ÆNEA (J. 282).

Arakan, Tenasserim.

[Tonghoo, Karen hills, Karen nee (*W. R.*); Thayet Myo (*O.*). *C. malayensis*, A. Hay, is identical with the Sumatran *Edolius picinus*, S. Müller, Bp. Consp. i. p. 352, the type of which I have compared at Leyden.]

*439. DISSEMURUS PARADISEUS (J. 284, *partim*).

Arakan, Tenasserim. I provisionally bring together the various races of *Bhimráj* (as they are designated in Bengal), because it appears to me that their differentiation is not yet sufficiently understood; but specimens from different localities differ much in size and in the development of the frontal crest. In some the latter is rudimentary, if it exist at all; while in others it attains a length of 2½ in.,* the frontal plumes flowing over and beyond the occiput. The ordinary length in Burmese specimens is about 1½ in. In one specimen in the Calcutta Museum, which is believed to have been procured by Helfer, the frontal crest is rudimentary, whilst the racket tail-feathers attain very unusual length, the unwebbed portion of them being much more spirated than I have seen in any other. Again, there is one race, found especially in Tippera, with the frontal crest 2½ in. long, and the closed wing 6¾ in. But, with the exception perhaps of this Tippera bird, there would seem to be all possible gradations in different localities, especially as regards the development of the frontal crest. The longest crested (or Tippera form) is styled *Chibia malabaroides* by Mr. Hodgson,† and the *Edolius grandis*, Gould,‡ is described to have the crest 1½ in. in length. *E. paradiseus* (*Cu-*

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* *vide* figure in J. A. S. B. xv. p. 295.

† India Review, 1837, p. 325; *syn. Lanius malabaricus*, as figured by Latham and Shaw, not as described by Latham from Sonnerat's figure.

‡ P. Z. S. 1836, p. 3.

culus paradiseus, L.) is based on Brisson's *Cuculus cristatus siamensis*, founded on a drawing by Poivre of a Siamese specimen, and should therefore denote the ordinary Tenasserim bird, which is identical with the *Bhimráj* of the Calcutta bird-dealers. As observed in captivity, this species has astonishing powers of mimicry.* I had one which imitated the fine song of the Sháma (*Cittocinela macroura*) to perfection; also the crowing of cocks, and every other sound produced by domestic poultry, the cawing of crows, the notes of various other wild birds, the bleating of calves, the cry of a dog being whipped, mewing of cats, etc.; but I do not remember to have heard one sing in the wild state. Mason, however, mentions its loud, flute-like notes, and remarks of one that used to come at sunset every evening, and perch on a bough near his dwelling in Dong-yan; "there it would sit and pour forth an incessant strain of melody for half an hour at a time." As seen alive, it presents a very different appearance from the stuffed specimens exhibited in museums, the hackled feathers of the neck showing to advantage. When tamed it is very fearless and familiar, and may be suffered to have its liberty in country places. It preys with avidity on small birds and other animals. But with all its extraordinary faculty of imitating sounds, the *Bhimráj* never attempts to articulate human speech, in which some examples of the hill maina (*Eulabes*) succeed so admirably.

[Thayet Myo, Karen nee, Tonghoo, Rangoon (*W. R.*). These examples agree with the Siam bird. An individual from Tonghoo, obtained by Major Lloyd, has the outer pair of rectrices feathered along the whole length of the inner side of the shaft. This is found occasionally to occur in individuals of many species of *Dissemurus*. *E. intermedius*, Lesson, is founded on some species, with the outer pair of rectrices fully webbed. Malabar individuals sometimes exhibit the same peculiarity. In *D. megarhynchus* it is normal. On the other hand, *D. lophorhinus* sometimes has the inner web wanting, except at the extremity of the outer rectrices.]

*440. BUCHANGA ATRA (J. 278).

Muscicapa atra, Hermann, if distinct from *B. macrocerca* of Java; Ibis, 1872, p. 119.

Arakan.

[Tonghoo, Karen nee, Rangoon (*W. R.*). *Muscicapa atra* is Hermann's title for the South Indian bird, which is invariably smaller than that of Northern and Eastern India. *D. macrocercus*, Vieillot=*E. longus*, Tem., pertains to the Javan bird alone; a distinct form. Some Burman examples possess, while others want, the white rictal spot, an unstable character among the continental races, but never found, so far as at present recorded, in true *B. macrocerca*, nor in *B. cathæca*. Adult Tonghoo birds agree best in the relative proportions of the rectrices with *B. cathæca.*]

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* *cf.* Ibis, 1860, p. 99.

441. B. INTERMEDIA.

D. intermedius, nobis, J. A. S. B. xv. p. 298 ; xxxix. pt. 2, p. 322 ; Viscount Walden in P. Z. S. 1866, p. 545.

Arakan hills, near Bassein (*W. T. Blanford*), South Tenasserim, Pinang, Malacca (*Stoliczka*).

[Tonghoo, Karen nee, Karen hills (*W. R.*); Moulmein (*Beavan*). Lieut. W. Ramsay has sent from the localities cited a very numerous series of a species of *Buchanga*, which provisionally, until I have been able to examine typical Penang examples, are here referred to *B. intermedia* (Blyth). They vary but slightly in their dimensions when full grown. Wing, 5·25; outer pair of rectrices, 6·12; middle pair, 4·25. Nor is there much if any variation in their colouring when in perfect plumage. Lores, jet black; under surface, pure uniform bluish-ash, with little or no gloss; above, glossy bluish-ash, somewhat darker than below, and paler on the rump; rectrices, ashy-blue. They are almost identical in colouration with Javan *B. leucophæa*, that bird however being smaller, and having a less forked tail. Wing of *B. leucophæa*, 5; outer pair of rectrices, 5·38; middle pair, 4. Among a large number of Javan birds I can find no variation of colouration when in perfect plumage. *B. mouhoti*, Walden, is not separable from this Burman form.]

[442. B. PYRRHOPS.

Dicrurus pyrrhops, Hodgs., Gray's Zool. Misc. p. 84, no. 553.

Rangoon, (*W. R.*).

The Rangoon examples sent by Lieutenant W. Ramsay are all referable to *B. pyrrhops*. They are identical with individuals from Deyra Doon, Nipaul, and Dacca. In colouration they do not differ from *B. intermedia*, but their dimensions are considerably larger. Wing, 5·75; outer pair of rectrices, 6·50; middle pair, 4·50. In perfect plumage they do not vary among one another. Nor can either they or *B. intermedia* be confounded with fully-plumaged examples of *B. longicaudata*, either from Malabar, Ceylon, Simla, Mussoorie, Nipaul, Darjeeling, and Asalu. The ashy Drongos have no representative in Southern India or in Ceylon. While *B. longicaudata* has no representative in Java, so far as is yet recorded, nor have I ever seen a Malaccan or Burman example of it. Along the lower ranges of the

Himalaya it certainly occurs, and there meets *B. pyrrhops.* In immature plumage *B. longicaudata* might, by a superficial observer, be mistaken for *B. pyrrhops.* But in adult full dress it is as distinct as it is from *B. atra*, with which, however, it was also for long confounded. By some *B. leucophæa*, *B. intermedia*, and *B. pyrrhops* might be considered as constituting one species, but no author who had studied the subject would unite them with *B. longicaudata.* The *D. cineraceus*, Horsf., *apud* Blyth (J. A. S. B. 1846, p. 299), and there described by Mr. Blyth from a Malaccan specimen presented by me to the Calcutta Museum, was an example of *B. leucogenys*, in the young plumage before the pure white cheeks are developed, and in which phase of plumage it may be easily mistaken for *B. leucophæa.* It ranges from Malacca through Siam, Camboja, and China, to Japan. It is not unlikely that it, as well as *B. longicaudata*, may be found to occur in Tenasserim. Mr. Blanford gives the last (Ibis, 1870, p. 468) from the Bassein district.]

443. Dicrurus annectens (J. 279).
Nipâl, Tenasserim, Malacca.
[Rangoon (*W. R.*). *D. affinis*, Blyth, is synonymous.]

Fam. Tchitreadæ.

Flycatchers.

*444. Tchitrea affinis (J. 289).
Arakan, Tenasserim, Malacca.
[Thayet Myo (*W. R.*). The oldest and correct generic title is *Muscipeta*, Cuvier. Count Salvadori (Uccelli, Borneo, p. 137) adopts *Terpsiphone*, Glogger, a more recent title for an undefined genus.]

[445. T. paradisi (J. 288).
Mr. Hume thus identifies, but with doubt (Str. Feath. iii. p. 474), a single example of an "immature female" obtained at Lemyne by Mr. Davison.]

[446. Philentoma velatum.
Drymophila velata, Tem. P. C. 334.
Om-ben-gwen (*D.*).]

*447. Hypothymys azurea (J. 290).
Arakan, Tenasserim, Malay countries, Philippines. Common.
[Thayet Myo (*O.*).]

*448. MYIALESTES CINEREICAPILLA (J. 295).

Arakan, Tenasserim, Malacca.

[Tsan koo hills, Karen nee, 3500 feet (*W. R.*). The title of this genus must stand *Culicicapa*, Swinh., it having precedence over *Empidothera*, Sundev.]

*449. LEUCOCERCA ALBIFRONTATA (J. 292).

Tonghoo.

[Thayet Myo (*O.*). Lesson's specific title, *aureola* (Tr. p. 390), was published during the same year as that of Franklin. Until we have means of determining the month, or day of the month of the year 1831, on which the Traité was published, it will be most convenient to retain the title by which the species is best known. Franklin published his title on the 9th of August.]

[450. L. ALBICOLLIS (J. 291).

Platyrhynchus albicollis, Vieillot, N. Dict. 27, p. 13 (1818).

Karen nee hills, at 4000 feet (*W. R.*); Pahpoon (*D.*); Thayet Myo (*O.*).]

451. L. JAVANICA.

Muscicapa javanica, Sparrman, Mus. Carls. pl. 75.

Mergui, Siam. The common species of the Malay countries.

[452. CHELIDORNYX HYPOXANTHA (J. 294).

Rhipidura hypoxantha, Blyth, J. A. S. B. xviii. pp. 930, 935.

Tonghoo hills (*W. R.*).]

Fam. Brachypodiidæ.

Bulbuls.

*453. HYPSIPETES PSAROIDES (J. 444).

Arakan, Fokien province, China (*Swinhoe*).

454. H. CONCOLOR.

H. concolor, nobis, J. A. S. B. xviii. p. 816, probably *H. yunanensis*, J. Anderson, P. Z. S. 1871, p. 213.

Tenasserim mountains (Bhamô district?). This and the preceding, a Himalayan race (found also on the Khásias), the darker-coloured *H. ganeesa* of South India, the still darker *H. nigerrimus*, Gould, of Formosa, and the black *H. perniger*, Swinhoe, of Hainan, are geographical representatives of each other, or conspecies, and it is remarkable that Ceylon examples are not so dark coloured as are those from the mainland of South India, nor so grey as are Himalayan specimens. In *Turdus melaleucus*, J. E. Gray (*H. niveiceps*, Swinhoe), of China, however, we have the same type, with the coral-red bill, but the black cap replaced by pure white; a remarkable variation, which is repeated among the black-headed and white-headed cinnamon-coloured munia grosbeaks.

[Tonghoo, Karen hills, at 1500 feet. Iris, hair-brown; bill and legs, lake-red (*W. R.*). *H. yunanensis*, Anderson, is synonymous. The white-capped Chinese species must stand *H. leucocephalus* (Gm.), founded on Sonnerat's *Merle Dominiquain de la Chine*, Voy. Indes, ii. p. 191.]

*455. H. MACCLELLANDI (J. 447).

H. holti, Swinhoe, Ibis, 1861, p. 266.

Arakan, South China.

456. H. TICKELLI.

H. tickelli, nobis, J. A. S. B. xxiv. p. 275.

Tenasserim provinces.

[Karen nee hills, 2500, 4000 feet. Iris, red-brown; bill, brown; legs, fleshy brown (*W. R.*). Under-surface of body plumage hardly distinguishable from the same in *H. malaccensis.*]

*457. IOLE VIRIDESCENS.

Iole viridescens, nobis, Ibis, 1867, p. 7; *I. virescens*, nobis, J. A. S. B. xiv. 573.

Arakan, Khásias, Tippera, Tenasserim (where obtained by Helfer).

[Tonghoo (*L.*); Yey-tho, Tsan koo hills (*W. R.*).]

*458. HEMIXUS FLAVALA (J. 448).

Pycnonotus flavala (Hodgs.), Gray and Mitchell, Gen. Birds, pl. 59.

Khásias, Arakan, Tenasserim. A representative species, *H. castaneinotus*, Swinhoe, inhabits Hainan.

[*H. hildebrandi*, Hume, Str. Feath. ii. p. 508.

Karen hills, at 2000 feet. Iris (♀), lake-brown; bill, black; legs, light brown (*W. R.*); forests north of Pahpoon (*D.*). A representative form, with the head and crest dark brown, not grey. Probably the species determined by Mr. Blyth as *H. flavala.*]

459. TRACHYCOMUS OCHROCEPHALUS.

Turdus ochrocephalus, Gm.; *Tricophorus crispiceps*, nobis, J. A. S. B. xi. p. 204.

Mergui. Common at Malacca, Sumatra, Java, Borneo.

*460. CRINIGER FLAVEOLUS (J. 451).

Arakan, Tenasserim.

[*C. griseiceps*, Hume, Str. Feath. i. p. 478.

Tonghoo hills, Karen nee (*W. R.*); Upper Pegu (*O.*); north of Pahpoon (*D.*). Differs slightly from true *C. flaveolus* by having the feathers washed with a cinereous tinge, but does not appear to have been discriminated by Mr. Blyth.]

461. C. OCHRACEUS.

C. ochraceus, Moore, Cat. E. I. C. Mus. i. p. 252.

Tenasserim (obtained by Helfer).

[This is a small form of *T. gutturalis*, S. Müller.]

[462. ALCURUS STRIATUS (J. 449).

Trichophorus striatus, Blyth, J. A. S. B. 1842, p. 184.

Tonghoo hills, at 5000 feet (*W. R.*).]

*463. IXUS FINLAYSONI.

Pycnonotus finlaysoni, Strickland, Ann. M. N. H. 1846, p. 411.

Arakan, Tenasserim provinces, Siam. "This," remarks Mason, "is a very common bird in Moulmein, and in the dry season its musical, though little varied notes, are often heard. It is rarely seen at Tavai."

[Tonghoo hills, Karen hills (*W. R.*).]

[464. I. ANNECTENS.

I. annectens, Walden, Ann. M. N. H. (4), 15, p. 401.

Rangoon (*W. R.*).]

465. I. BLANFORDI.

Pycnonotus blanfordi, Jerdon, Ibis, 1862, p. 20; *Pycnonotus familiaris*, nobis, J. A. S. B. xxxi. 343.

Very abundant at Thayet Myo.

[Tonghoo (*W. R.*).]

*466. I. FLAVESCENS.

Pycnonotus flavescens, nobis, J. A. S. B. xiv. 563; *P. luteolus*, from Siam *apud* Horsf. and Moore, Cat. E. I. C. Mus. 1, p. 243 (?).*

Khásias, Arakan.

[Tonghoo hills, Karen nee, at from 2500 to 4000 feet. Iris, light brown; bill and legs, black (*W. R.*); north of Pahpoon (*D.*).]

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* Gould gives *P. goiavier* (*Muscicapa goiavier*, Scopoli) from Siam (P. Z. S. 1859, p. 151). The true *I. goiavier*, however, is peculiar to the Philippines, and the species intended by Mr. Gould must stand as *I. analis*.

467. OTOCOMPSA MONTICOLA.

Ixos monticolus, M'Clelland, P. Z. S. 1839, p. 160; Ibis, 1867, p. 440.

Khásias, Tenasserim provinces. Probably *O. jocosa*, var. *sinensis*, J. Anderson, from Bhamo. Barely separable from *O. jocosa* of Bengal and Northern India, which again only differs from *O. fuscicaudata*, Gould, of South India, by having white spots on its rectrices. Another instance of different local races or conspecies. Mason remarks that this is one of the most common birds in the neighbourhood of Tavoy.

[Rangoon, Tonghoo, Karen nee, Karen hills (*W. R.*). The Bengal bird must take the specific title of *emeria*, Lin., even if the Chinese race, *Lanius jocosus*, Lin., is identical with it, as stated by Mr. Swinhoe, and who is doubtless correct. Linnæus described the Bengal Bulbul twice over in the 12th edition of the Systema, once under the genus *Lanius*, and again under *Muscicapa*, but both times with the same specific title, *emeria*.]

*468. PYCNONOTUS HÆMORRHOUS (J. 462).

Turdus cafer, Gm., founded on *Merle huppé du Cap de bonne espérance*, P. E. 563, fig. 1.

Specimens from Arakan and South India appear to me to be undistinguishable, although the larger and much blacker *P. pygæus* takes its place in Lower Bengal.

[Thayet Myo, Tonghoo, Rangoon (*W. R.*). Rangoon examples more properly fall under the race named *pygæus* by Hodgson. This appropriate title, which had been adopted by Jerdon, Blyth, and other accurate authors, was changed, through misprint or other error, in the Hand-List, No. 3957, to the inappropriate title of *pygmæus*. *H. pusillus*, Blyth, founded on the South Indian bird, is a synonym of true *P. hæmorrhous*.]

469. P. NIGRIPILEUS.

P. nigropileus, nobis, J. A. S. B. xvi. p. 472.

Tenasserim provinces. Common. Another representative race of the preceding, which again only differs from *P. crocorrhous*, Strickland, of Java, in having the lower tail-coverts crimson.*

[Tonghoo, Karen hills (*W. R.*); Moulmein, Amherst (*D.*).]

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* *P. xanthorrhous*, J. Anderson (P. A. S. B. 1869, p. 265; *P. andersoni*, Swinhoe), is a species described from Yunan and from the Ichang gorge of the Upper Yang-tsze.

[470. P. ATRICAPILLUS.

Muscicapa atricapilla, Vieill. N. Dict. 21, p. 489 (1818); A. Hay, M. J. L. Sc. xiii. p. 160; Ibis, 1866, p. 318.

Hæmatornis chrysorrhoides, Lafr., Rev. Zool. 1845, p. 367.

Karen nee, from 1000 to 2000 feet (*W. R.*); Pahpoon, Meeta Myo hills, Tavoy (*D.*).]

*471. RUBIGULA FLAVIVENTRIS (J. 456).

Arakan, Tenasserim, Siam. Common.

[Rangoon, Tonghoo, Karen nee (*W. R.*).]

*472. BRACHYPODIUS MELANOCEPHALUS.

Lanius melanocephalus, Gm.; *Turdus atriceps*, Tem., P.C. 147. *Bok-wa.*

Tippera, Arakan, Tenasserim provinces, Malacca, Sumatra. Dr. Stoliczka remarks that he has seen this species "darting after insects almost like a Flycatcher."

[Karen nee (*W. R.*).]

[473. B. CINEREIVENTRIS.

B. cinereiventris, Blyth, J. A. S. B. 1845, p. 576.

Tonghoo (*W. R.*). I have great doubts whether this is a species distinct from *B. melanocephalus*. It seems to be rather a variety, the yellow of the nape and under surface being changed to grey. A Malaccan example in my collection is in a stage of transition from yellow to grey. Where not grey, these examples do not differ from *B. melanocephalus*. Mr. Blyth describes (*l. c.*) "the tail-feathers as being less deeply tipped with yellow," etc., but the rectrices in these two examples are identical with those of Malaccan and Burman specimens of *B. melanocephalus*. In Sumatran *Ixus chalcocephalus* all the yellow plumage of *B. melanocephalus* is changed to grey, the black and metallic parts only remaining the same in the two forms. Whether it be considered as a distinct species or not, *B. cinereiventris* is an interesting example of an "incipient" species.]

Subfam. PHYLLORNITHINÆ (Hurriahs).

474. PHYLLORNIS JAVENSIS.

Meliphaga javensis, Horsfield; *Chloropsis sonneraitii*, Jard. and Selby, Ill. Orn. pl. 100, Gould, B. As. pt. xiii. pl. 6.

This Malayan species was obtained on Moulè-it mountain by Col. Tickell.*

[Ye (*D.*).]

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* J. A. S. B. xxiv. p. 277.

*475. P. HODGSONI (J. 465).

P. hodgsoni, Gould, B. As. pt. xiii. pl. 8. *Hgnet-seing* (generic).

Arakan; also obtained by Mr. W. T. Blanford seventy miles above Ava.*

[Rangoon, Tonghoo, Yey-tho, Thayet Myo, Karen nee (*W. R.*). The continental species seems to have been separated from the Sumatran, on insufficient evidence. The Malaccan form is considerably smaller.]

*476. P. CHLOROCEPHALUS.

P. chlorocephalus, Walden, Ann. M. N. H. (4), 1871, vol. vii. 241; *Turdus cochinchinensis*, Gm. (?).

Arakan, Tenasserim; has been obtained also on the Garo hills.

[Tonghoo, Karen nee, at 1600 feet (*W. R.*).]

*477. P. HARDWICKII (J. 466).

Chloropsis hardwickii, Jard. and Selby; Gould, B. As. pt. xiii. pl. 7.

Arakan, Tenasserim mountains. *P. lazulina*, Swinhoe, of Hainan, is barely separable.

[Tonghoo hills, Karen hills, from 3500 to 4000 feet (*W. R.*). *P. lazulina* has the shoulder patch coloured like the moustache, and the crown cinereous green.]

*478. IORA LAFRESNAYII.

Iora lafresnayii, Hartlaub, Rev. Zool. 1844, p. 401; Mag. de Zool. 1845, t. 60; Stoliczka, J. A. S. B. xxxix. pt. ii. p. 309; ♀ *I. innotata*, nobis, J. A. S. B. xvi. p. 472.

Arakan, Malacca. Apparently of rare occurrence.

[*Phœnicomanes iora*, Sharpe, P. Z. S. 1874, p. 427, pl. 54, is synonymous. As long since pointed out (Ibis, 1866, p. 317), if *Sylvia leucoptera*, Vieill., is a species of *Iora*, and there can be but little doubt that it is, Vieillot's generic title of *Ægithina* must supersede Horsfield's.]

*479. I. TYPHIA (J. 468).

I. typhia, Ibis, 1867, p. 10.

Indo-Chinese countries generally, Malayan peninsula, Sumatra, Java, and Borneo. Throughout this range of distribution it never shows the black upper parts of *I. zeylonica*, but there co-exists with it in the Malay countries, the *I. scapularis*, Horsfield, the male of which is *I. viridissima*, Temminck.

[Rangoon, Tonghoo, Karen nee (*W. R.*). Javan *I. scapularis*, ♀, is certainly not separable from *I. typhia*, ♀; the bill however is shorter. *I.*

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* J. A. S. B. xxxii. p. 79.

viridissima is not the male of *I. scapularis*. *I. viridis*, Bp., may be the male of *I. scapularis*, but then it is difficult to separate *I. viridis* from *I. typhia*. *I. viridis*, described from Bornean examples, occurs also at Malacca, and is the species referred to above as the *I. typhia* of those countries. It is certainly of a much deeper yellow underneath than *I. typhia* of India and Burma, having the chin, cheeks, throat, breast, and under tail-coverts intense golden, much deeper than in *I. zeylonica* in full plumage, and it is but little less brilliant in the female. The bill, too, is somewhat stouter than in *I. typhia*, and much more so than in Javan *I. scapularis*, a character also relied on by Bonaparte. As it is possible that *I. typhia* does sometimes assume this rich golden colour, although in the many individuals I have examined I have never met with one, *I. viridis* had better, for the present, remain a synonym of *I. typhia*. Of the males, one Tonghoo example (April 19) has the interscapulary region black. Another (April 15) has the entire head and nape black. A Rangoon individual (June 6) has the occiput and nape black, forehead mixed black and green, some interscapulars turning to black, or reverting to green. All the rest (a large series) green above. A Karen nee male, in otherwise typical plumage, has the middle pair of rectrices broadly tipped (quarter of an inch) with green, remainder very narrowly tipped with green, outer pair fringed on inner and outer margins, and tipped with the same colour. This example has the chin, cheeks, throat, and breast very deep yellow, but not golden, as in *I. viridis*. The mutations, both in colouring and markings, which exhibit themselves in all the members of this genus, have been too little studied and are too little known to entitle any one at present to pronounce dogmatically on the subject. The problem is a much deeper one than whether *I. zeylonica* and *I. typhia* are to stand in our lists as titles representing one species or two distinct species. The admitted fact that the occurrence of birds in the *I. zeylonica* garb are exceptional in Burma and the rule in Ceylon and peninsular India, whereas breeding males are rarely (as yet recorded) found in Ceylon and peninsular India in *I. typhia* plumage, is one that cannot be disposed of or accounted for by a mere dogmatic assertion that all belong to one species. *Cf.* Captain Cock (Hume, Nests and Eggs, p. 297).]

Subfam. IRENINÆ (Irenas).

*480. IRENA PUELLA (J. 469).

Coracias puella, Lath.; nec *Muscicapa cyanea*, Begbie, v. *Irena malayensis*, Moore; *cf.* Viscount Walden, Ann. M. N. H. (4), v. p. 417; J. A. S. B. xxviii. p. 274.

Arakan, Tenasserim.

[Tonghoo, Karen hills (*W. R.*); Thayet Myo (*O.*). The *Irena* of the

Karen hills very closely resembles the Malabar bird; the colour of the males is however perhaps a shade lighter, approaching more nearly to *I. cyanea.*]

Fam. **Oriolidæ.**

Orioles.

*481. Psarophorus traillii (J. 474).

Pastor traillii, Vigors; Gould, B. As. pt. xxiii. pl. 5.

Arakan, Tenasserim. A mountain species, inhabiting the more elevated forests. In Hainan and Formosa it is represented by *P. ardens*, Swinhoe, as in Java by *O. sanguinolentus*, Tem.

[Tonghoo, Karen hills, Karen nee (*W. R.*). Swainson's generic title, *Analcipus*, has precedence. The oldest title for the Javan species is *cruentus*, Wagler.]

*482. Oriolus melanocephalus (J. 472).

Loriot de la Chine, P.E. 79.

Arakan, Tenasserim provinces, Malayan peninsula.

[Tonghoo, Yey-tho, Thayet Myo, Karen nee (*W. R.*).]

*483. O. indicus (J. 471).

O. indicus, Jerdon, Ill. Orn. pl. 15.

Arakan, Tenasserim, China, Java. The *Couliavan* of Buffon, P. E. 570, upon which is founded *O. chinensis*, L., does not represent this species, but *O. acrorhynchus*, Vigors, which appears to be peculiar to the Philippines.

[Rangoon (*W. R.*). The Rangoon individuals, all in perfect plumage, cannot be separated from China examples. They must therefore take the title of *O. chinensis*. The title of *O. hippocrepis*, Wagler, cannot be used for any species of *Oriole*, as it was applied to Indian, China, Cochinchina, Javan, and Sumatran examples generally, and, moreover, included the Philippine *O. acrorhynchus*. D'Aubenton's plate, above alluded to (P. E. 570), the subject of which may have been described by Montbeillard, not Buffon (Hist. Nat. Ois. iii. p. 262), certainly agrees best with *O. acrorhynchus*, Vigors. But Linnæus founded no title on it. Montbeillard identified, by reference, his *Coulavan* with Brisson's *O. cochinsinensis*, described from individuals obtained in Cochinchina by Poivre, and brought by him to Reaumur. On Brisson's species *O. chinensis*, Lin., was founded, but the description in the "Ornithologia" applies better to the Chinese bird than to the Philippine.]

*484. O. TENUIROSTRIS.

O. tenuirostris, nobis, J. A. S. B. xv. 48.

Arakan, Pegu, Martaban. Apparently not common, and distinguished from the preceding species by having a much more slender bill.

[Tonghoo (*L.*); Thayet Myo, Karen nee (*W. R.*); Kollidoo (*D.*).]

Fam. **Nectarinidæ.**

Sunbirds.

*485. ARACHNOTHERA MAGNA (J. 223).

Arakan, Tenasserim.

*486. A. AURATA.

A. aurata, nobis, J. A. S. B. xxviii. p. 416.

Tonghoo.

[Karen hills, at 2500 feet (*W. R.*). Jerdon (B. Ind. i. p. 361) refers to an *Arachnothera phayrei*, Blyth, from Pegu. I cannot find that Blyth ever published any such title. Jerdon states that *A. phayrei* is very close to *A. magna*. *A. aurata* is noted in my private memoranda (written some years ago) on Jerdon's work, as being intended: a correction almost certainly entered, as in many other instances, after personal reference to Blyth or Jerdon, although the circumstance has escaped my memory. There is a *Nectarinia phayrei*, Blyth, a title Jerdon may have had in his mind. As Blyth does not include *A. phayrei* in this list, it is most probable that he never published such a title, and that it occurs (*l. c.*) through a slip of the pen.]

*487. A. PUSILLA (J. 224).

Tippera, Arakan, Tenasserim, Pinang, Malacca, Sumatra.

[Tonghoo (*W. R.*). This species must take the specific title of *longirostra*, Lath., Ind. Orn. i. p. 299. One Tonghoo example, shot in April, has the orange pectoral tufts fully developed; while in another (♂), obtained on the 20th of that month, they are absent. Javan individuals can hardly be separated.]

[488. A. MODESTA.

Anthreptes modesta, Eyton, P. Z. S. 1839, p. 105.

Meeta Myo (*D.*). Thus identified by Mr. Hume.]

*489. ARACHNECHTHRA ASIATICA (J. 234).

Certhia asiatica, Latham; Ibis, 1870, p. 20; *A. intermedia* (?), A. O. Hume, Ibis, 1870, p. 436, from Tippera.

Arakan, "Thayet Myo, Yenan-khyoung" (*Blanford*). *A. intermedia* is described to have the bill of intermediate length to those of *A. asiatica* and *A. lotenia*; but neither Mr. W. T. Blanford nor myself distinguished the more eastern form from that common in North India.

[Tonghoo, Thayet Myo, Karen nee (*W. R.*); general, north of Ye (*D.*). *A. intermedia* cannot claim specific rank.]

*490. A. FLAMMAXILLARIS.

Nectarinia flammaxillaris, nobis; Ibis, 1870, p. 24.

Arakan, Tenasserim, Pinang, Siam, South China (?).

[Rangoon, Yey-tho (*W. R.*).]

*491. ÆTHOPYGA MILES (J. 225).

Cinnyris miles, Hodgs.; Ibis, 1870, p. 32.

Viscount Walden remarks that Moulmein and Tippera specimens in his collection are smaller than those from the Deyra Doon and from Nipâl. "From Tippera, wing 2·12, tail 2·72, bill ·57; from the Deyra Doon, wing 2·18, tail 3·18, bill 6. The Moulmein specimen is still smaller."

[Tonghoo (*L.*). Some five years ago I pointed out (*l. c.*) that Moulmein and Tippera specimens differed from Deyra Doon and Nipaul individuals, but I refrained from separating the former specifically until the variations that *Æ. miles* undergoes had been investigated. While identifying the Tenasserim race (south of Moulmein) with *N. lathami*, Jard., Mr. Hume (Str. Feath. ii. p. 473, note) has bestowed on it the specific title of *cara*. The Tenasserim and Tonghoo race does slightly differ from true *Æ. miles*, but it certainly is not *Æ. lathami*, which is described as having a blue front and upper tail-coverts, and black interior maxillary stripes. There can be little doubt that *N. lathami* is=*Æ. eupogon.*]

*492. Æ. GOULDIÆ (J. 227).

Cinnyris gouldiæ, Vigors; Ibis, 1870, p. 35.

Mountains of Arakan, where probably also occur *Æ. nipalensis*, *Æ. saturata*, and *Æ. ignicauda*, all of which inhabit the Khásias.

[493. Æ. DEBRII.

Nectarinia debryii, G. Verr., R. M. Zool. 1867, pl. 15; Walden, Ibis, 1870, p. 35.

Karen nee, at 4000 feet. Iris (♂), bill, and legs, brown (*W. R.*). A representative form of *Æ. gouldiæ*, from which it only differs by having the breast vermilion.]

[494. Æ. sanguinipectus.

Æ. sanguinipectus, Walden, Ann. M. N. H. (4), 15, p. 400 (1st June, 1875).

Karen nee hills, at from 2500 to 3000 feet (*W. R.*).]

*495. Nectarophila hasselti.

Nectarinia hasseltii, Tem.; *Certhia brasiliana*, Gm.; Ibis, 1870, p. 41.

Tippera, Arakan, Tenasserim, Pinang, Malacca, Sumatra, Borneo.

*496. Anthothreptus malaccensis.

Certhia malaccensis, Scopoli; Ibis, 1870, p. 47.

Arakan, Tenasserim, Siam, Cambodia, Malacca, Sumatra, Java, Borneo, Celebes, and Sula Islands, but "does not reach the Moluccas" (*Wallace*).

*497. Chalcoparia phœnicotis.

Nectarinia phœnicotis, Tem.; *Certhia singalensis*, Gmelin; Ibis, 1870, p. 48.

Tippera, Arakan, Tenasserim, Siam, Malacca, Sumatra, Java, Borneo.

[Rangoon, Tonghoo (*W. R.*).]

*498. Dicæum cruentatum (J. 236).

Certhia cruentata, Lin.; Gould, B. As. part vi. pl. —

Arakan, Tenasserim, Pinang, Malacca, Sumatra, Borneo. Very abundant in the vicinity of Mergui station.

[Rangoon, Yey-tho, Tonghoo (*W. R.*); Thayet Myo (*F.*). The race which inhabits Sarawak has been specifically separated by Count Salvadori under the title of *D. nigri-mentum* (Ucc. Borneo, p. 165). Malaccan individuals appear also to differ, although but slightly, from Burman, Bengal, and Assam examples.]

*499. D. trigonostigma.

Certhia trigonostigma, Scopoli; *C. cantillans*, Latham (*cf.* Stoliczka, J. A. S. B. xxxix. pt. 2, p. 303).

Arakan, Tenasserim, Malacca, Sumatra, Borneo.

[Karen hills, at 3000 feet (*W. R.*).]

*500. D. chrysorrhæum (J. 237).

Khásias, Arakan, Tenasserim, Malacca.

[Tonghoo. Iris (♂, ♀), brown; bill, black; legs, dark slate-colour (*W. R.*).]

*501. D. ERYTHRORHYNCHA (J. 238).

Certhia erythrorhyncha, Latham, Ind. Orn. i. p. 299; *Nectarinia minima*, Tickell.

Latham's title was founded on the drawing of a young specimen, with the colour of the bill exaggerated. A still smaller species from Hainan has been described as *D. minullum*, Swinhoe, Ibis, 1870, p. 240.

Arakan, Tenasserim. Exceedingly abundant in the jungles near Moulmein, and coming within reach of the hand if the spectator remains motionless.

[There is nothing in Latham's text to indicate that he described from a drawing.]

[502. D. VIRESCENS.

D. virescens, Hume, Str. Feath. ii. p. 198.

Pahpoon and neighbourhood (*D.*).]

[503. D. OLIVACEUM.

D. olivaceum, Walden, Ann. M. N. H. (4), 15, p. 401 (June 1st, 1875).

Tonghoo hills, Karen hills (*W. R.*).]

[504. MYZANTHE IGNIPECTUS (J. 241).

Karen nee, at 4000 feet (*W. R.*).]

Order GEMITORES.

Pigeons.

Fam. Treronidæ.

Hurrials.

*505. TORIA NIPALENSIS (J. 771).

Not uncommon in Arakan; occurs also in the Malayan peninsula, and in Sumatra.

[Pegu hills (*O.*); Tenasserim (*D.*). The generic title, *Toria*, must give way to *Treron*. The species seems to be identical with *T. nasica*; if so, its range extends to Borneo.]

*506. CROCOPUS VIRIDIFRONS.

Treron viridifrons, nobis, J. A. S. B. xiv. p. 849; Bonap., Icon. des Pigeons, pl. 9.

Pegu, Tenasserim provinces, Siam. This race is barely separable from *C. phœnicopterus*, but its colours are always purer and more strongly contrasted. Mr. W. T. Blanford, however, gives *C. phœnicopterus* from Ava, in addition to *C. viridifrons* from Bassein and Thayet Myo.*

[Tonghoo (*W. R.*).]

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* Ibis, 1870, p. 469.

*507. OSMOTRERON PHAYREI (J. 776).

Common in Arakan and Pegu, rare in Lower Bengal. In colour it quite resembles *Toria nipalensis,* but the bill is very differently shaped.

[Tonghoo (*W. R.*); Tenasserim (*D.*).]

*508. O. BICINCTA (J. 774).

Arakan, Pegu, Tenasserim provinces, Siam, Malacca (*fide* Walden) and India generally. A slightly different race inhabits Hainan (*O. domvillei,* Swinhoe).* From Siam Mr. Gould notes the allied *T. viridis* (Scopoli)= *vernans,* Lin., in addition to *O. bicincta. O. viridis* is a common Malayan species, which is likely to occur in South Tenasserim.

[Tonghoo (*W. R.*). The common Malayan species alluded to is *Columba vernans,* Lin. Mr. Hume notes it from Tenasserim (Str. Feath. i. p. 461, and iii. p. 162), but does not include it in his list of Tenasserim birds (*op. cit.* ii. p. 481.]

[509. SPHENOCERCUS SPHENURUS (J. 778).

[Tonghoo hills (*W. R.*); hills north of Pahpoon (*D.*).]

[510. S. APICAUDUS (J. 779).

Tonghoo hills (*W. R.*); hills north of Pahpoon (*D.*).]

Fam. **Columbidæ.**

Pigeons and Doves.

Subfam. CARPOPHAGINÆ (Fruit Pigeons).

*511. CARPOPHAGA INSIGNIS (J. 781).

Mountains of Arakan.†

In the Leyden Museum I remarked that *C. insignis* (Hodgson) appeared to be the same as *C. badia* (Raffles), the former being rather brighter in colouring; while *C. lacernulata* (Tem.), of Sumatra and Java, is rather smaller with a distinct grey cap.

[*C. lacernulata* is, as yet, only with certainty recorded as an habitant of Java.]

*512. C. ÆNEA (J. 780).

Bung-madie.

Generally diffused over British Burma, and identical with the species as found in Central India and in the Andaman Islands; while the corresponding bird of the Nicobars (*C. insularis*, nobis*) is constantly distinguishable. *C. rosacea* (Tem.), from Timor, etc., differs very slightly. In Southern India and Ceylon the race is smaller, but otherwise similar (*C. pusilla*, nobis†). Of this small race I observed four specimens from Travancore and Ceylon in the Museum at Leyden.

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* Ibis, 1870, p. 534.

† *cf.* J. A. S. B. xxviii. p. 416.

[Tonghoo (*L.*).]

513. C. BICOLOR.

Columba bicolor, Scopoli; Sonnerat, Voy. t. 103; *C. alba*, Gmelin; *C. littoralis*, Tem.

Mergui archipelago, Nicobar Islands, Malayan peninsula.

Subfam. COLUMBINÆ (Pigeons).

514. ALSOCOMUS PUNICEUS (J. 782).

Arakan, Tenasserim, not uncommon on Ramri Island; Central India, Ceylon. It is nearly allied to *Columba ianthina*;‡ and an unnamed species of the *Palumbus* or Cushat group from Siam (*Xiengmai*) would seem to be indicated by the late Sir R. H. Schomburgk.§

[Tonghoo (*W. R.*). The examples constituting the large series obtained at Tonghoo by Lieutenant W. Ramsay in no way differ from Maunbhoom and Upper Assam individuals.]

*515. COLUMBA LIVIA (J. 788).

Columba livia, var. *intermedia*, Strickland; *C. turricola*, Bonap.

Common, as throughout India, and only differing from the wild European *livia* in having no white above the tail. It everywhere grades into the domestic Pigeon.

*516. TURTUR TRANQUEBARICUS (J. 797).

Turtur tranquebaricus, Hermann, Obs. Zool. p. 200. *Gyo* (generic).

Arakan.

[Karen nee (*W. R.*). The Karen nee examples belong to true *T. humilis* of the Philippines, and not to *T. tranquebaricus*.]

*517. T. TIGRINUS.

Columba tigrina, Tem.; Knip, Pig. pl. 43.

Indo-Chinese and Malayan countries. This can hardly be considered as being other than a race of *T. suratensis*, of India with Ceylon, but, except where the two come in contact, the difference would seem to be maintained.

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* J. A. S. B. xv. p. 371.

† *op. cit.* xviii. p. 816.

‡ Fauna Japonica, Aves, t. lx. c.

§ Ibis, 1864, p. 250.

[Yey-tho, Thayet Myo (*W. R.*). Mr. Hume, Str. Feath. iii. p. 164) speaks of "typical *tigrina* from Sumatra." As the species, *T. tigrinus*, was not described from a Sumatran individual, it is difficult to gather what is meant by the expression "typical."]

*518. T. MEENA (J. 793).

Gyo-peing-tu-ma.

Arakan, Tenasserim. A specimen of *T. cambaiensis* flew on board a steamer when in sight of land on the voyage from Moulmein to Rangoon.*

[Tonghoo, Karen nee, at 4000 feet (*W. R.*).]

[519. T. RISORIUS (J. 796).

Thayet Myo (*F.*). Professor Schlegel (Mus. P.-Bas, *Columbae*, p. 123) adopts the title of *T. douraca*, Hodgs., for this Indian dove, and restricts the Linnæan title to the domestic bird of Europe (*t. c.* p. 125). But all the authors Linnæus quotes described the bird from India. It is the *Turtur indicus* of Aldrovandi, and Linnæus says "*habitat in India.*"]

520. MACROPYGIA RUFICEPS.

Columba ruficeps, Tem.; P.C. 561.

Mergui, Province Wellesley, Java. A finer species akin to this inhabits the Andaman and Nicobar Islands, *M. rufipennis*, nobis;† and the *M. tusalia* is likely to occur on the higher mountains of Arakan, if not further south; it is not rare on the Khásias, and a smaller race of the same is described from Hainan.‡

[This Javan species may occur as stated, but the following appears to be the commoner form.]

[521. M. ASSIMILIS.

M. assimilis, Hume, Str. Feath. ii. p. 441.

Karen hills, at 3000 feet. Iris (♀), grey; bill and legs, vinous brown (*W. R.*); Kollidoo (*D.*).]

[522. M. TUSALIA (J. 791).

Karen nee (*W. R.*); Kollidoo (*D.*).]

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* Beavan, Ibis, 1869, p. 406.

† J. A. S. B. xv. p. 371.

‡ Ibis, 1870, p. 355.

*523. CHALCOPHAPS INDICUS (J. 798).

India, Indo-China, and Malay countries, Andaman Islands; but the Nicobar race* is a little peculiar, and corresponds with *C. mariæ*, Bonap.

[Rangoon, Tonghoo, foot of Karen hills (*W. R.*); Tenasserim (*D.*). Recent investigations do not confirm the opinion that the Nicobar race of this species differs.]

Subfam. CALŒNINÆ (Hackled Ground-Pigeons).

524. CALŒNAS NICOBARICUS.

Columba nicobarica, Lin.; Edwards, pl. 339; Pl. Enl. 491.

This remarkable bird is common in the Mergui archipelago, and I have received the young from the Cocos Islets, north of the Andamans. It seems to be only able to maintain itself in islands where there are no small carnivorous mammalia; and I doubt, therefore, the statement that it is "common on the Tenasserim coast."†

Order GALLINACEÆ.

Poultry-Birds.

Fam. **Pavonidæ**.

Pheasants, etc.

Subfam. PAVONINÆ (Peafowl).

*525. PAVO MUTICUS.

Pavo muticus, L. *Oo-doung*. Elliot, Mon. Phas. pt. ii. pl. 11.

Chittagong, Arakan, Tenasserim, Siam. Invariably of darker and less vivid colouring than the species as it occurs in Java, but not otherwise differing. In the provinces of Sylhet and Assam the Indian species, *P. cristatus*, replaces it.‡

It is doubtful, at present, whether this species really inhabits the Malayan peninsula or Sumatra; but Crawfurd distinctly asserts that it inhabits "the tropical countries lying between India and China,—of the Malayan peninsula, and the islands of Sumatra and Java."§ On the other hand, Wallace remarks that "it is a singular fact in geographical distribution that the Peacock should not be found in Sumatra or Borneo, while the superb

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* J. A. S. B. xv. p. 371.

† Calc. J. N. H. i. p. 605.

‡ Calc. J. N. H. ii. p. 144.

§ Tr. Ethn. Soc. *n.s.* vol. ii. p. 451.

Argus, fire-backed, and ocellated Pheasants of those islands are equally unknown in Java."* Raffles must mean this species when he states that "the common Peacock is a native of the Malayan peninsula and of Java, and is also known to Sumatra." He gives the Malayan name as *M'ree* or *Marak*, but in Sumatra he may only have seen tame Peafowl, imported from Java. The late Dr. Cantor had specimens in his collection from Pinang and Province Wellesley, but whether procured there in the wild state I am unaware; it may be remarked, however, that the same collection contained specimens of *Gallus varius*, which is understood to be quite peculiar to Java.

[The occurrence of this species in Burma offers a notable instance of the fact that Javan forms, unknown in the Malay peninsula south of Pinang, and in Sumatra and Borneo, reappear in Burma.]

Subfam. ARGUSANINÆ.

526. ARGUSANUS GIGANTEUS.

Phasianus argus, L.; Elliot, Mon. Phas. pt. iii. pl. 2.

Mergui, Malayan peninsula, Sumatra.

*527. POLYPLECTRON CHINQUIS.

Polyplectron chinquis, Temminck; *Pavo tibetanus*, L.; Gould, B. As. pt. xxiii. fig. 1; Elliot, Mon. Phas. pt. ii. pl. 8. *Doung-Kula*, *Monuwur*, and *Day-o-da-huk*.

Sylhet, Assam, Tenasserim provinces; South-West China (*Swinhoe*).

[The oldest name for this species is *P. thibetanus*, but as it involves a geographical error, Temminck's title is adopted by most authors.]

Subfam. PHASIANINÆ (Pheasants).

528. GALLUS FERRUGINEUS (J. 812).

Tetrao ferrugineus, Gm.; Elliot, Mon. Phas. pt. ii. pl. 9.

The wild common Fowl. Abundant in the forests, and the domestic poultry of the Karéns is commonly recruited from the wild race, which is not the case in those parts of northern and central India where the wild and tame inhabit the same forest districts. The cheek-lappet of the cock is pure white and contrasting in the Indian race, and red in the Indo-Chinese race. The tarsi are always slate-coloured in the wild bird, but tend to become yellow in the domestic before any other change is perceptible.

[Tonghoo (*W. R.*); Tenasserim (*D.*).]

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* Malay Archipelago, i. p. 169.

*529. Nycthemerus lineatus.

Phasianus lineatus, Latham; *P. reynaudii*, Lesson; *P. fasciatus*, M'Clelland; Elliot, Mon. Phas. pt. iii. pl. 7. *Yeet.*

Pegu, Martaban, Tenasserim. Common down to the sea-level or nearly so. In Arakan the race is hybrid (*Lophophorus cuvieri*),[*] and presents every gradation from *N. lineatus* to *G. horsfieldi*[†] of Tippera and Sylhet.[‡]

[Karen hills (*W. R.*). Wagler's generic title *Gennæus* has precedence.]

530. N. andersoni.

Euplocamus andersoni, Elliot, P. Z. S. 1871, p. 137; Mon. Phas. pt. v. pl. 11.

This fine species, intermediate to *N. lineatus* and the well-known Silver Pheasant, *N. argentatus*, Swainson,[§] was discovered by Dr. J. Anderson in Yunan.

Another beautiful species, *Diardigallus prælatus*, Bonap.,[||] inhabits the Shán States, and is now bred in European *vivaria*. According to M. Germain, this bird is common through the forest region of French Cochin-China.

In the Yunan mountains the superb Lady Amherst Pheasant[¶] was obtained by Dr. J. Anderson.

[The oldest published title with a description for *D. prælatus*, is *craufurdii*, J. E. Gray (Cuv. R. An. (Griffith), *Aves*, iii. p. 27). Mr. Craufurd brought the type (♀) from Ava, but we have no evidence that the species is indigenous to Burma, and it is therefore not here included.]

531. Euplocomus ignitus.

Phasianus ignitus, Latham; *E. vieillotti*, Gray; Gould, B. As. pt. ii. pl. 8; Elliot, Mon. Phas. pt. ii. pl. 10.

This large Malayan Pheasant is common along the valley of the great Tenasserim river. Kachar.

Subfam. Perdicinæ (Partridges).

*532. Francolinus phayrei.

Francolinus phayrei, nobis, J. A. S. B. xii. p. 1011; xxiv. p. 480.

Common in Pegu, and a young example is contained in the British Museum from Cochin-China. Very similar to *F. sinensis* (*Tetrao chinensis*,

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[*] Tem., P.C. v. pl. 1.

[†] Elliot, Mon. Phas. pt. iv. pl. 4.

[‡] *vide* J. A. S. B. xviii. p. 817.

[§] Elliot, Mon. Phas. pt. i. pl. 6.

[||] *Phasianus crawfurdii* (?), Gray, ♀; Gould, B. As. pt. xi. pl. 4; Elliot, Mon. Phas. pt. i. pl. 12.

[¶] *Thaumalea amherstiæ*, Gould, B. As. pt. xviii. pl. 7; Elliot, Mon. Phas. pt. ii. pl. 10.

Osbeck, *T. perlatus*, Gmelin), but less robust, having the bill and feet more slender. In Hainan the species is described as identical with that of South China. Sir. R. H. Schomburgk's *F. pictus* from Siam is doubtless the present species.

[Thayet Myo, Karen nee (*W. R.*). The slight differences between the Burman and Chinese races of this Francolin, relied on by Mr. Blyth, seem hardly sufficient to constitute a separate species. A comparison made between numerous examples from Burma and China disinclines me to concur in Mr. Blyth's opinion.]

533. ARBORICOLA RUFIGULARIS (J. 825).

This species of Peura Partridge, which inhabits the South-East Himalaya, at a lower altitude than *A. torqueola*, was obtained by Colonel Tickell in the mountainous interior of the Tenasserim provinces, at elevations of from 3000 to 5000 feet.

*534. A. INTERMEDIA.

A. intermedia, nobis, J. A. S. B. xxiv. p. 277.

I failed to discriminate these two races, until I had received numerous living examples of *A. atrigularis* from Sylhet, when I remarked the difference of *A. intermedia*, which I have reason to suspect was received from Arakan. There is a specimen of the latter in the British Museum, habitat unknown. (Since the above was written, Mr. W. T. Blanford has obtained *A. intermedia* from Arakan.)

535. A. BRUNNEIPECTUS.

A. brunneipectus, Tickell, J. A. S. B. xxiv. p. 276.

Tenasserim mountains, from 3000 to 5000 feet (*Tickell*).

[Tonghoo and Karen hills (*W. R.*).]

536. A. CHLOROPUS.

A. chloropus, Tickell, J. A. S. B. xxviii. pp. 415, 453.

"Tolerably numerous; but as far as my observations go, is entirely confined to the forests on the banks of the Zummee river. Unlike its known congeners, it avoids mountains, and inhabits low though not humid jungles, where the ground merely undulates or rises into hillocks. Early in the morning these birds come out on the pathway, scratching about in the elephants' dung, and turning over the dead leaves for insects. They do not appear to have any crow or call, though during the pairing season this may not be the case" (*Tickell*). This species is nearly allied to *A. charltoni*

(Eyton), *A. pyrrhogaster* (Reichenbach) of Province Wellesley, but is sufficiently distinguished.

[Eastern slopes of the Pegu hills (*O.*).]

537. Caloperdix ocellata.

Tetrao ocellatus, Raffles, Tr. L. S. xiii. p. 322; *Perdix oculea*, Tem.; Hardw. Ill. Zool. i. pl. 58.

Obtained by Major Berdmore in Mergui province. *Hab.* also Province Wellesley and Sumatra.

[Temminck's specific title has precedence.]

538. Bambusicola fytchei.

Bambusicola fytchei, J. Anderson, P. Z. S. 1871, p. 214, pl. xi.

Was obtained on the hill-sides of Ponsee, at an elevation of 3000 feet.

539. Rollulus cristatus.

Columba cristata, Gmelin; *Perdix coronata*, Latham.

Valley of the Tenasserim river, Siam, Malayan peninsula, Sumatra, and Borneo. "More common about Malacca than in the Wellesley Province and in Tenasserim" (*Stoliczka*).

[Must stand as *Rollulus roulroul.*]

*540. Coturnix communis (J. 829).

Arakan, Martaban.

[Karen nee (*W. R.*).]

541. C. coromandelicus (J. 830).

Common in Upper Burma.

542. Excalfactoria chinensis (J. 831).

Tetrao chinensis, Lin.; Gould, B. As. pt. x. pl. 12.

Arakan, Tenasserim, Malayan peninsula and islands.

Fam. **Turnicidæ.**

Hemipodes.

543. Turnix blanfordi.

Turnix blanfordi, nobis, J. A. S. B. xxxii. p. 80; *Hemipodius maculosus*, Tem. (?), *Turnix maculatus*, Vieillot, Gal. des Oiseaux, t. 217.

Arakan, Pegu.*

[Tonghoo, Karen nee (*W. R.*); Kollidoo (*D.*). Not to be separated from Shanghai and Chefoo examples.]

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* *vide* Swinhoe, in P. Z. S. 1871, p. 402.

544. T. PLUMBIPES (J. 833).

T. plumbipes, Hodgson, Beng. Sport. Mag. 1837, p. 345.

Tenasserim specimens are quite similar to those from Nipâl.

[Thayet Myo, Karen nee, Tonghoo (*W. R.*). Not separable from Malaccan examples; but differing somewhat from Javan *T. pugnax.*]

Order GRALLATORES.

Waders.

N.B.—Bustards are foreign to the Indo-Chinese countries, but a straggler of the Likh Florikim (*Syphcotides aurita*) is recorded to have been shot at Sandoway, Arakan (Bengal Sport. Mag. 1835, p. 151).

Tribe LIMICOLÆ (Plovers and Snipes).

Fam. **Charadriadæ.**

Plovers.

*545. AESACUS RECURVIROSTRIS (J. 858).

Common along the banks of rivers.

[Kyasoo creek (*W. R.*).]

546. OEDICNEMUS CREPITANS (J. 859).

Yenan-khyoung (*W. H. Blanford*).

547. CHÆTTUSIA CINEREA (J. 854).

Bassein, China and Japan.*

[Tonghoo (*W. R.*); Ye (*D.*). As Professor Schlegel (*l. c.*) gives Mr. Blyth's title precedence, it may be accepted for the present. Further investigation may, however, show that Temminck and Schlegel's title was published at an earlier date. The Report in which Mr. Blyth first described *C. cinerea* was for March, 1842, but was only actually published with the Proceedings of the A. S. B. for June, 1842.]

*548. SARCOGRAMMA ATRINUCHALIS.

Sarcogramma atronuchalis, nobis, J. A. S. B. xxxi. p. 345, note.

Common from Arakan to Malacca. It has much more black on the nape than the Indian race, margined with white below, more or less developed.

[Yey-tho, Thayet Myo, Tonghoo, Karen nee (*W. R.*).]

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* H. Schlegel, Mus. des Pays-Bas, *Cursores*, p. 69.

549. SARCIOPHORUS BILOBUS (J. 856).

Thayet-Myo.

[Boddaert's specific title, *malabaricus*, has priority, as a glance at Pl. Enl. 880 will show.]

*550. HOPLOPTERUS VENTRALIS (J. 857).

Common along the banks of rivers. Mr. Swinhoe met with it in Hainan [Tonghoo, Karen nee (*W. R.*).]

*551. SQUATAROLA HELVETICA (J. 844).

Arakan.

[Tonghoo (*W. R.*).]

*552. CHARADRIUS FULVUS (J. 845).

Common in the cold season.

[Thayet Myo, Tonghoo (*W. R.*).]

553. ÆGIALITES PLACIDA.

Ægialites placidus, G. R. Gray, Cat. Hodgs. Coll. 2nd ed. p. 70, 1863; *A. hartingi*, Swinhoe; *Eudromias tenuirostris*, A. O. Hume, probably *Charadrius longipes*, apud David, N. Arch. de Mus. 1867, p. 38.

A specimen of this bird was believed by Dr. Jerdon to have been procured by him in Burma, but he was not sure whether he obtained it on the coast or inland.

*554. Æ. MONGOLICA (J. 847).

Common in the cold season.

*555. Æ. DUBIA (J. 849).

Charadrius dubius, Scopoli, Del. Fl. Faun. Insubr. ii. p. 92.

Smaller than the European *Æ. curonicus*, but otherwise similar, and of common occurrence.*

[*Æ. philippensis*, apud Jerd., No. 849, and which is the number in Mr. Blyth's MS., is=*C. curonicus*, Gm. But perhaps the species actually intended by Mr. Blyth is *Æ. minuta* (Pallas), apud Jerdon, No. 850, and of which Lieutenant W. Ramsay obtained specimens at Tonghoo. The title *C. philippensis*, Lath., was founded on the same plate as that of *C. dubius*, Scopoli. Until the species which inhabits the island of Luzon has been studied, the correct titles for the two species cannot be determined. The synonymy is very simple, but the correct application of the various titles cannot be made until the Philippine type has been compared.]

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* For notice of *Æ. philippensis*, commonly referred to the same, *vide* Ibis for 1867, p. 164.

[556. Æ. CURONICUS (J. 849).
Rangoon (*W. R.*).]

*557. Æ. ALEXANDRINUS (J. 848).
C. alexandrinus, Lin.
Arakan.
[Tonghoo (*W. R.*).]

Fam. **Hæmatopodidæ.**

*558. STREPSILAS INTERPRES (J. 860).
Arakan.

559. HÆMATOPUS OSTRALEGUS (J. 862).
Arakan; China and Japan (*H. Schlegel*).

Fam. **Glareolidæ**

Pratincoles.

*560. GLAREOLA ORIENTALIS (J. 842).
Arakan, Pegu.
[Tonghoo (*W. R.*).]

*561. G. LACTEA (J. 843).

Arakan, Pegu, Tenasserim. Dr. Jerdon found this species breeding at Thayet Myo, with the young just flown in May.

[Tonghoo (*W. R.*).]

Fam. **Recurvirostridæ.**

*562. HIMANTOPUS AUTUMNALIS (J. 898).

Arakan. *H. leucocephalus** will doubtless be met with.†

The Stilt-plovers of the Old World have bright rose-coloured legs, and ruby-red irides; while those of America (*H. nigricollis*) have very much paler pinkish legs and dark irides; diversities which are not seen in the dry skins.

[Karen hills (*W. R.*).]

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* Gould, Birds of Australia, vol. vi. pl. 24.

† *cf.* Ibis, 1865, p. 35, 1867, p. 169; J. A. S. B. xli. pt. 2, p. 253.

Fam. Scolopacidæ.

Snipes, etc.

*563. Totanus glottis (J. 894).
Arakan.
[Upper Pegu (*O.*).]

*564. T. stagnatilis (J. 895).
Arakan, Tenasserim.
[Upper Pegu (*O.*).]

*565. T. calidris (J. 897).
Arakan.
[Karen nee (*W. R.*).]

*566. Actitis glareola (J. 891).
Arakan.
[Tonghoo, Karen nee (*W. R.*).]

*567. A. ochropus (J. 892).
Arakan.
[Upper Pegu (*O.*).]

*568. A. hypoleucus (J. 893).
Arakan, Tenasserim.
[Tonghoo (*W. R.*).]

*569. Xenus cinereus (J. 876).
Arakan, Tenasserim.*

*570. Limosa ægocephala (J. 875).
Arakan.

*571. Numenius lineatus (J. 877).

Numenius lineatus, Cuvier, R. An. 2nd ed. i. p. 521; Lesson, Tr. d'Orn. p. 565; *N. major*, Fauna Japonica, Aves, pl. 66.

Arakan.

[Kyasoo creek (*W. R.*). Mr. Blyth has always maintained that the Indian differed from the European Curlew.]

*572. N. phæopus (J. 878).
Arakan, Tenasserim, Andamans, and Nicobars.
[Thayet Myo (*F.*).]

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* *cf.* Ibis, 1873, p. 68.

*573. TRINGA SUBARQUATA (J. 882).
Arakan, Tenasserim.

*574. T. PLATYRHYNCHA (J. 886).
T. platyrhyncha, Tem.; Gray and Mitchell, Gen. Birds, pl. 157, fig. 2.
Arakan.

*575. T. SALINA (J. 884).
T. salina, Pallas; *T. damacensis*, Horsfield; *T. subminuta*, Middendorff.
Arakan, Tenasserim.

[Rangoon, Tonghoo (*W. R.*). While *T. damacensis*, Horsf., remains unidentified, it will be best to adopt Middendorff's title of *subminuta* for this species. Mr. Swinhoe identifies *T. salina*, Pallas, with *T. albescens*, Tem., a species which has a red neck and throat in spring. For it, *T. ruficollis* is the oldest title.]

*576. T. TEMMINCKII (J. 885).
Arakan.
[Tonghoo (*W. R.*).]

577. EURYNORHYNCHUS PYGMÆUS (J. 887).
E. pygmæa (Lin.), Gray and Mitchell, Gen. Birds, pl. 157, fig. 1; Gould, B. As. pt. xxi. pl. 13; Ibis, 1869, pl. xii.
Estuaries of rivers, on extensive mud-banks left by the tide.

*578. PHILOMACHUS PUGNAX (J. 880).
Arakan.

[Moerhing's generic title cannot be used, and as Leach gave no generic characters, and was not substituting a title, *Pavoncella* must fall, and *Machetes*, Cuv., be adopted.]

579. GALLINAGO SCOLOPACINA (J. 871).
Common in Upper Burma.
[Tonghoo (*W. R.*); Pabyouk (*D.*).]

*580. G. STENURA (J. 870).
The most common snipe of the Indo-Chinese and Malayan countries.

[*Scolopax stenura*, Kuhl, MS.; *S. sthenura*, Bp., An. St. Nat. 1829; *S. horsfieldii*, J. E. Gray, Zool. Misc. 1831, p. 2. Mr. G. R. Gray (H. L. No. 10344) most unaccountably gives Dr. Gray's title the precedence.]

[581. G. GALLINULA (J. 872).
Upper Pegu (*O.*).]

[582. SCOLOPAX RUSTICOLA (J. 867).
An example of this Woodcock was shot at Moulmein by Colonel D. Brown a few years since (*fide* Hume, Str. Feath. ii. p. 482).]

*583. RHYNCHEA BENGALENSIS (J. 873).
Arakan, Tenasserim.
[Rangoon, Yey-tho (*W. R.*).]

Fam. **Parridæ.**

Jacanas.

*584. METOPIDIUS INDICUS (J. 900).
Arakan, Tenasserim.
[Tonghoo (*W. R.*).]

*585. HYDROPHASIANUS SINENSIS (J. 901).
Arakan, Tenasserim.

[Tonghoo (*W. R.*). Must stand *M. chirurgus* (Scop.), unless on comparison the Philippine bird be found to differ.]

Fam. **Gruidæ.**

Cranes.

586. GRUS ANTIGONE (J. 863).
Kyo-gya.

Arakan and Pegu. Very numerous in the interior in large flocks. According to Lieut. Beavan, it breeds in Burma.* Cantor procured it in Province Wellesley, and it is common in Siam.

587. G. LONGIROSTRIS (J. 865).

G. longirostris, Tem., Fauna Japonica, Aves, pl. lxxii.; *G. cinerea*, of Indian authors; *cf.* Ibis, 1873, p. 81.

Included by Mason, and was observed by Mr. Swinhoe in Hainan.

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* P. Z. S. 1867, p. 762.

Fam. Ibididæ.

Ibises.

*588. Falcinellus igneus (J. 943).
Arakan.

*589. Geronticus papillosus (J. 942).
Arakan.

*590. Ibis melanocephalus (J. 941).
Kula-gowk.
Arakan, Tenasserim, Siam.

Fam. Ciconiidæ.

Storks.

*591. Tantalus leucocephalus (J. 938).
Arakan, Tenasserim. Common.
[Tonghoo (*W. R. in epist.*).]

*592. Anastomus oscitans (J. 940).
Kha-ru-tsoke.
Arakan.

*593. Xenorhynchus australis (J. 917).
Arakan, Tenasserim.

[The Asiatic Jabiru, even if it be identical with the Australian, must take the title of *asiatica*, Lath.]

*594. Ciconia episcopus (J. 920).
Ciconia microscelis, Gray and Mitchell, Gen. Birds, pl. 151. *Khyce-kheng-tswop.*
Arakan, Tenasserim, Malayan countries.
[Upper Pegu (*O.*).]

595. C. alba (J. 919).
Included by Mason.

596. Leptoptilus argala (J. 915).
Arakan, Tenasserim. Breeds on trees on the limestone mountains.

[Tonghoo (*W. R. in epist.*). Although long ago shown by Professor Schlegel (Mus. P.-Bas, *Ardeae*) that, under the title of *Ardea dubia*, Gmelin had confounded three distinct species, namely the two Indian and the African, Mr. G. R. Gray (H. L. No. 10195) adopted Gmelin's title for the larger Adjutant of India. It is even doubtful whether Latham's title of *argala* may in strictness be employed. If it be rejected, an unexceptionable title, Professor Alfred Newton suggests, is available in *A. gigantea*, R. Forster (1795, Faun. Ind. p. 11), and the adoption of which would avoid the necessity of using Temminck's most objectionable title of *marabu*.]

*597. L. JAVANICA (J. 916).

Dung-tsat and *Nghet-gyee.*

Arakan, Tenasserim, Hainan.

Fam. **Ardeidæ.**

Herons.

*598. ARDEA SUMATRANA (J. 922).

Ardea sumatrana, Raffles; Gould, B. Austr. vol. vi. pl. 54.

Arakan, Tenasserim, Malacca, Sumatra, and Australia.

*599. A. CINEREA (J. 923).

Generally diffused.

*600. A. PURPUREA (J. 924).

Khyung byaing.

Generally diffused.

*601. HERODIAS ALBA (J. 925).

Arakan.

[*Cf.* Swinhoe, P. Z. S. 1871, p. 412, *E. modesta.*]

*602. H. INTERMEDIA (J. 926).

Ardea intermedia, Wagler; Fauna Japonica, Aves, pl. 69; Gould, B. Austr. vol. vi. pl. 57.

Frequents open places about the town of Rangoon. Obtained at Bhamŏ.

*603. H. GARZETTA (J. 927).

Common in the interior.

604. H. EULOPHOTES.

H. eulophotes, Swinhoe, Ibis, 1860, p. 44; Gould, B. Austr. vol. vi. pl. —.

Obtained by Major Berdmore at Mergui.

605. H. CONCOLOR.

Demiegretta concolor, nobis, J. A. S. B. xv. p. 372.

Arakan (Ramri), Andaman and Nicobar Islands.*

*606. BUPHUS COROMANDUS (J. 929).

Arakan.

*607. ARDEOLA GRAYI (J. 930).

Arakan.

[Karen nee (*W. R.*).]

[608. A. PRASINOSCELES.

A. prasinosceles, Swinhoe, Ibis, 1860, p. 64.

Examples obtained by Mr. Davison at Tavoy and Ye-boo, are thus identified by Mr. Hume (Str. Feath, ii. p. 483).]

*609. BUTORIDES JAVANICUS (J. 931).

Common.

[Tonghoo, Rangoon (*W. R.*).]

*610. ARDETTA FLAVICOLLIS (J. 932).

Common.

[Tonghoo, Rangoon (*W. R.*).]

*611. A. CINNAMOMEA (J. 933).

Common.

[Rangoon, Tonghoo (*W. R.*).]

*612. A. SINENSIS (J. 934).

Common.

[Tonghoo (*W. R.*).]

*613. GORSACHIUS MELANOLOPHUS.

Ardea melanolopha, Raffles, Tr. L. S. xiii. p. 326.

Specimen obtained in Ramri by Major J. R. Abbott.

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* *Ardea jugularis*, Forster, is given by Herr v. Pelzeln from the Nicobars, in addition to *A. concolor*.

[The specific title of *sacra*, Gm., supersedes that of *concolor*, Blyth (*cf.* Walden, Ibis, 1873, p. 318). *A. jugularis*, Forster, is synonymous.]

*614. Nycticorax griseus (J. 937).
Arakan, Bhamô.
[Rangoon (*W. R.*).]

Fam. **Rallidæ.**

Rails, Coots, etc.

*615. Porphyrio poliocephalus (J. 902).
Arakan, Tenasserim. *P. smaragdinotis* is given from Siam.*

[Tonghoo (*W. R.*). Latham's description agrees well with the common Indian purple Coot. He says nothing about a brown back, and that the whole head, neck, and lower parts are unicolorous pale lavender-blue, as stated by Mr. Hume (Str. Feath. iii. p. 185). Latham describes the bird as having the back purple; the head and neck, blue-grey, growing to azure towards the chin; breast and belly verditer green (Suppl. ii. p. 375).]

*616. Gallicrex cristatus (J. 904).
Arakan, Tenasserim.
[Upper Pegu (*O.*). Must stand *G. cinereus* (Gm.).]

*617. Porzana phœnicura (J. 907).
Rallus phœnicurus, Forster; Gould, B. As. pt. xxiv. pl. 12.
Arakan, Tenasserim, Siam. Common.
[Tonghoo (*W. R.*).]

*618. P. maruetta (J. 909).
Arakan.

*619. P. pygmæa (J. 910).
Common.

*620. P. fusca (J. 911).
Common.

*621. Hypotænidia striata (J. 913).
Common.
[Rangoon (*W. R.*).]

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* Ibis, 1864, p. 246, note.

[*P. smaragdinus*, Tem. P. C. 421 = *P. indicus*, Horsf., and not the African *P. smaragnotus*, Tem. = *Gallinula madagascariensis*, Lath., is the species alluded to.]

[622. RALLINA CEYLONICA (J. 912).
Thayet Myo (*O.*).]

[623. R. FASCIATA.
Rallus fasciatus, Raffles, Tr. L. S. xiii. p. 328.
Amherst (*D.*).]

*624. RALLUS INDICUS (J. 914).
R. japonicus, Schlegel.
Arakan.

*625. GALLINULA CHLOROPUS (J. 905).
Arakan.
[Upper Pegu (*O.*).]

*626. FULICA ATRA (J. 903).
Arakan.

*627. PODICA PERSONATA.
Podica personata, G. R. Gray, P. Z. S. 1848, 90, *Aves*, pl. 4; Gen. Birds, pl. 173.
Cachar, Tenasserim provinces, Malacca.

"These very rare birds in Tenasserim," remarks Col. Tickell, "are met with in shady deep narrow streams in forests, whether in the tideway or remotely inland. They swim rapidly, but seldom dive; and although eminently aquatic in conformation, resort, strange to say, for safety to land. Scrambling up the steep banks when shot at, and running with unexpected rapidity into dense thickets, its flight is like that of the Coot, or Water-hen, squattering along the surface of the water." *

Fam. Laridæ.

Gulls.

628. LARUS ICTHYAËTUS (J. 979).
Ramri.

*629. XEMA BRUNNEICEPHALA (J. 980).
Chroicocephalus tibetanus, Gould. Mason also includes *X. ridibunda.*
Arakan.

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* Tickell, J. A. S. B. xxviii. p. 455.

630. LESTRIS POMATORHINUS.

An example in mature plumage procured by Colonel Tickell near Moulmein.*

Fam. Sternidæ.

Terns.

*631. GELOCHELIDON ANGLICA (J. 983).

Arakan.

*632. HYDROCHELIDON INDICA (J. 984).

Arakan, Tenasserim.

633. THALASSEUS CRISTATUS (J. 989).

Sterna bergii, Licht.; *S. velox*, Ruppell.

Tenasserim coast.

634. TH. MEDIUS (J. 990).

Sterna media, Horsfield; *S. affinis*, Ruppell; *S. bengalensis*, Lesson; *S. torresii*, Gould.

Arakan, Tenasserim.

*635. SEENA AURANTIA (J. 985).

A common river Tern.

[Tonghoo, Sittang river (*W. R.*).]

*636. STERNA MELANOGASTRA (J. 987).

Sterna melanogastra, Tem.; Gould, B. As. pt. x. pl. 16.

A common river Tern.

Of maritime Terns which must needs occur on the coast may be mentioned *Onychoprion melanauchen* (Tem.), P.C. 427, which breeds plentifully in the Nicobars; *O. panaya*, *Anous stolidus*, and *A. tenuirostris*.†

On the coast must also necessarily occur *Phaëton æthereus*, *Sula fiber*, and probably *Fregata*.

[Tonghoo (*W. R.*). Horsfield's title, *javanica*, has priority.]

[637. S. MINUTA (J. 988).

Tonghoo (*W. R.*).]

[638. S. ——— ?

Irrawady river (*W. R.*). I have not as yet been able to identify this species.]

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* J. A. S. B. xxviii. p. 416.

† *cf.* Ibis, 1867, p. 178.

639. Rhynchops albicollis (J. 995).

Not rare. Frequently seen on the Tavoy river, according to Mason.

[Tonghoo (*W. R.*).]

Order NATATORES.

Tribe TOTIPALMATÆ.

Fam. **Pelecanidæ.**

Pelicans.

640. Pelecanus javanicus.

Common.

[Jerdon's number is left blank in MS.]

*641 P. philippinensis.

P. philippinensis, Gm.; Ann. M. N. H. xiv. p. 122; J. A. S. B. xviii. p. 821.

Common.

[Jerdon's number is left blank in MS.]

Fam. **Graculidæ.**

Cormorants.

642. Graculus carbo (J. 1005).

Obtained by Colonel Briggs at Tavoy,* and common in Upper Burma.

Finlayson probably means this Cormorant when he mentions having procured "a fine species of black Pelican" in the Gulf of Siam.

[Tonghoo (*W. R.*).]

643. G. fuscicollis (J. 1006).

Phalacrocorax sulcirostris, Brandt.

Bhamo, Mouloung lake (*J. Anderson*).

644. G. pygmæus (J. 1007).

Ten-gyie.

Common.

[Tonghoo, Sittang river (*W. R.*).]

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* P. Z. S. 1859, p. 150.

Fam. Plotidæ.

Darters.

*645. Plotus melanogaster (J. 1008).

Ten-gyie.

Arakan, Tenasserim. Enormous flocks near Mengoon (*J. Anderson*). The alleged Australian species (*P. novæhollandiæ*, Gould) differs in no respect.

[Tonghoo (*W. R.*).]

Tribe LAMELLIROSTRES.

Fam. Anatidæ.

*646. Sarcidiornis melanonotus (J. 950).

Tau-won-bai.

Common.

[Tonghoo (*W. R.*).]

*647. Dendrocygna arcuata (J. 952).

Common. *D. major* is also included by Mason.

[Tonghoo (*W. R.*).]

*648. Casarca rutila (J. 954).

Arakan, Bhamo.

649. C. leucoptera (J. 955).

Inhabits the valleys of the great rivers, from the Megna at least to the Tenasserim. The *Anas scutulata*, S. Müller, seems to be a domesticated, if not hybrid, variety of this species, and the examples of it in the British and Leyden Museums have much intermixture of white in the plumage.

*650. Nettopus coromandelianus (J. 951).

Karagat.

Common.

[Tonghoo (*W. R.*).]

*651. Anas pœcilorhyncha (J. 959).

Arakan, Bhamo, Tenasserim.

*652. A. caryophyllacea (J. 960).

A. caryophyllacea, Latham; Gray and Mitchell, Gen. Birds, pl. 168.

Arakan, Bhamo.

*653. A. strepera (J. 961).
Arakan.

*654. A. acuta (J. 962).
Arakan.

*655. A. circia (J. 965).
Arakan, Tenasserim. Has been known to breed near Moulmein.
[Tonghoo (*W. R.*).]

*656. A. crecca (J. 964).
Arakan, common at Bhamo, Hainan.

*657. A. penelope (J. 963).
Arakan, Hainan.*

*658. Fuligula nyroca (J. 969).
Arakan.

659. Branta rufina (J. 967).
Bhamo.

[If employed, *Branta* should be written *Brenthus*. But as the type of Scopoli's genus (Ann. I. Hist. Nat. p. 67) is *A. bernicla*, Lin., *A. rufina* cannot well be included under it.]

Tribe —— (?)

Fam. Podicipidæ.

Grebes.

*660. Podiceps philippensis (J. 975).
Arakan.
[Tonghoo (*W. R.*).]

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* *A. punctata* (*Anas punctata*, Cuv., Gould, B. Austr. vii. pl. 11; *Querquerdula andamanensis?* Tytler) inhabits the Andaman Islands (Ball, J. A. S. B. xli. pt. ii. p. 290). [Not *A. punctata*, Cuv., but *M. gibberifrons*, S. Müller = *M. albogularis*, Hume.]

[From the total number of birds known to inhabit Burma, 660, as noted in the foregoing list, four must be deducted. Namely:

1. *Palæornis melanorhynchus*, apud Blyth.
2. *Teraspizias rhodogastra.*
3. *Micropternus burmannicus*=*M. rufinotus.*
4. *Pellorneum minor*=*P. tickelli.*

The next seven species may have been confounded with species also enumerated:

5. *Caprimulgus indicus* with *C. jotaka.*
6. *Cypselus batassiensis* with *C. infumatus.*
7. *Sturnia malabarica* with *S. nemoricola.*
8. *Brachyurus megarhynchus* with *B. moluccensis.*
9. *Cryptolopha burkii* with *C. tephrocephalus.*
10. *Orthotomus edela* with *O. flavi-viridis.*
11. *Macropygia ruficeps* with *M. assimilis.*

And the total may have to be still further reduced by three more species, namely:

12. *Sturnia sinensis*, its occurrence not resting on good evidence.
13. *Machlolophus subviridis*, apparently *M. spilonotus*, juv.
14. *Brachypodius cinereiventris*, perhaps a variety only of *B. melanocephalus.*

The following four species, not separately enumerated, may have to be added:

1. *Megalæma virens*, in addition to *M. marshallorum.*
2. *Hemixus hildebrandi*, in addition to *H. flavala.*
3. *Criniger griseiceps*, in addition to *C. flaveolus.*
4. *Osmotreron vernans.*

Further investigations will doubtless make known a great many more forms belonging to either Himalayan or Malayan genera.]—WALDEN.

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